

MINNESOTA MEDICINE

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THE INDICATIONS FOR EXCRETORY UROGRAPHY*

B. H. NICHOLS, M.D.
Cleveland, Ohio

I CONSIDER it a great honor to present the Carman Lecture for the Radiological Society of Minnesota, especially when I recall the list of distinguished roentgenologists who have preceded me in delivering this lecture.

It was my good fortune and great pleasure to have known Dr. Carman intimately for a number of years. He was a great roentgenologist and clinician with a kindly, unselfish spirit. He was always willing to give any information he had which would be useful to his fellow practitioners and helpful to humanity. This great compassion and tolerance exemplified the character of Dr. Carman. He was a pioneer in radiology and contributed greatly to its success and development by his teachings and writings. It is with some timidity that I address you on "The Indications for Excretory Urography," for I feel that it will not be of sufficient quality to represent the man in whose name this lecture was founded.

The development of a media which can be introduced into the body and excreted by the kidneys greatly simplifies the diagnosis of diseases involving the urinary tract. Excretory urography makes possible the correct diagnosis and treatment of lesions which heretofore have not been diagnosed, or have been allowed to reach an advanced stage of development before their nature was determined. This examination can be carried out wherever a roentgenologist is available, which I believe is the case in the majority of hospitals in the United States.

The urinary tract frequently is the seat of disease without definite evidence of abnormal

changes. With symptoms closely resembling diseases of other organs, it becomes necessary to be "kidney minded." Abnormal changes in the urinary tract as a cause of symptoms must be excluded before surgical intervention, particularly in those cases without a clear-cut chain of symptoms of the disease for which operation seems indicated. Because of the complex structure of the sympathetic nervous system, fibers from the upper ureters, for instance, may refer pain to the gall bladder or colon. If a stone in the upper ureter moves further down the ureter, the reflex mechanism may transmit impulses to the appendix, ovaries and other organs. Many patients have been submitted to appendectomy when the correct diagnosis was found to have been a ureteral calculus or intermittent hydronephrosis.

A short history of the development of excretory urography may be of interest. Retrograde pyelography, or the visualization of the kidneys by the introduction of opaque media through a catheter, was introduced by von Lichtenberg in 1904, at which time he acted as the guinea pig for this experiment. Soon after, he realized the possibility of making such an examination by the introduction of the media into the blood stream. However, no practical application was developed until 1923, when Rowntree demonstrated excretory urography with the use of sodium iodide solution. When it was found, however, that this was not the ideal media for such an examination, von Lichtenberg's laboratories again began the study of media with urea bases and the combination of iodine, known as the selectan groups, and uroselectan was finally perfected by von Lichtenberg and Swick. Since

*From The Cleveland Clinic, Carman Memorial Lecture delivered at the annual meeting of the Minnesota State Medical Association, Rochester, Minnesota, April, 1940.

that time other preparations, particularly skiodan and diodrast, have been used extensively and have produced practical results.

The application of these preparations in excre-

stricted during this time. The patients are not instructed to retain bladder urine which we think has some influence on the kidney function. This is the technic used in the routine examination.



Fig. 1. Woman, aged thirty. Soreness in the right upper quadrant for six to eight years. A mass the size of a grapefruit was palpated on the right side. No hematuria. Nephrectomy was performed, and the pathological diagnosis was hypernephroma. The patient was well eight years without recurrence.

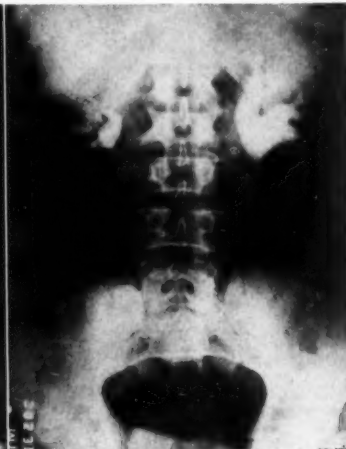


Fig. 2. Man, aged forty-seven. Intermittent pain in upper left quadrant for five years which was relieved by lying down. Excretory urogram shows hydronephrosis of the left kidney. A plastic operation on the stricture of the upper ureter relieved symptoms. Subsequent nephrectomy was necessary, however, because of the recurrence of symptoms.

tory urography has varied greatly. After the introduction of the media into the blood stream, many attempts were made to block the ureters artificially, to place the patient in a Trendelenburg position, or to dehydrate the patient. Such procedures were attempts to produce results similar to retrograde pyelography, which is applicable only in a very limited number of cases, especially when a retrograde pyelogram cannot be done.

By excretory urography, we are able to demonstrate anomalies and actual pathological changes in the kidney pelvis and ureters. A study of the dynamics of the kidneys and ureters and the determination of the kidney function can be made with a fair degree of accuracy.

It is practical not to interfere with the natural functions of the patient, but to introduce the dye into the vein and make the initial examination of the urinary tract within the first five minutes. A second examination is made in fifteen minutes, and a third film is made in thirty minutes. The last film is made one hour after the injection of the dye. The patient's activity has not been re-

We are convinced that only by constant repetition of the technic of examination in case after case is it possible to estimate accurately the dynamics and the function of the kidneys and ureters. This standard method of examination is not so important as is the constant repetition of whichever method is adopted. If the patient has disturbed function, films are made at two and three-hour periods, which helps greatly in determining the pathology present. This method has been well described in "The Clinical Value of the Delayed Urogram," presented by Dr. Braasch at a recent meeting of the American Association of Genito-Urinary Surgeons.

The following are contra-indications for such an examination: (1) Advanced renal dysfunction; (2) advanced cardiac decompensation; and (3) allergy to iodide salt. Sensitivity to iodide is probably the most important contra-indication for the use of intravenous dye in excretory urography as some deaths due to an allergic reaction to iodides have been reported recently. A history of allergy is important, and a preliminary

EXCRETORY UROGRAPHY—NICHOLS

test for allergic reaction should be made before the dye is introduced.

Urography is indicated: (1) In cases of advanced prostatic disease where cystoscopy is im-

plantations; (6) in the presence of vesical fistula, ureteral fistula, or vesical diverticulosis; and (7) in the presence of a stone in the ureter or kidney. If used when indicated, excretory urog-

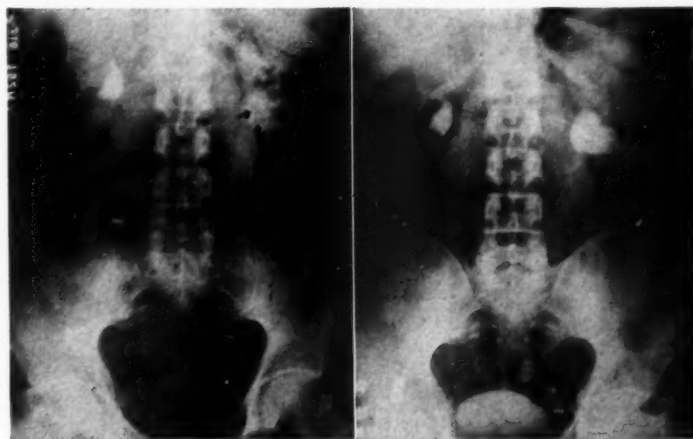


Fig. 3. *A.* Man, aged fifty-two. Recent accident to thorax and costal cartilage. A few red blood cells were found in the urine. The excretory urogram shows two non-opaque stones in the five-minute excretion from the right kidney. *B.* Thirty-minute excretory urogram obscures the stones. Pyelogram also obscured the stones.

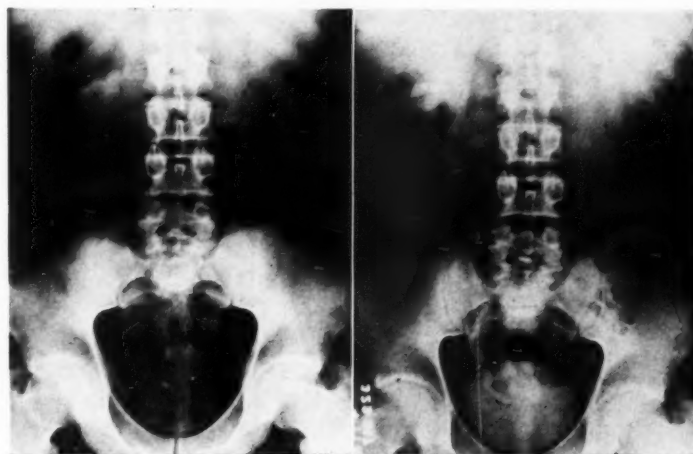


Fig. 4. *A.* Woman, aged forty-two. Roentgenogram showing a stone in the lower right ureter. *B.* Partial obstruction caused by the stone with dilatation of the ureter and hydronephrosis. Retention after one hour.

practicable or impossible and the study of delayed function is of great help to the surgeon; (2) in cases in which it is impossible to catheterize the ureters; (3) in young patients and in the aged; (4) in the presence of hydronephrosis, nephroptosis, trauma to the kidney or ureters, and congenital anomalies; (5) in ureteral trans-

raphy makes possible the accurate diagnosis of a large group of urological diseases.

In a great majority of cases of a palpable mass in the abdomen (Fig. 1), it is possible to determine by excretory urography whether or not the kidney is involved. If the kidney is normal, the mass must be accounted for by other path-

ologic changes. Such an examination may reveal a ptosed or ectopic kidney, a tumor in the kidney, or a large hydronephrosis, all of which usually can be visualized on the excretory urogram. In-



Fig. 5. Woman, aged forty-two. A stone was removed from the ureter in 1934. Excretory urogram three years later shows a marked hydronephrosis on the right side.

termittent pain in the abdomen which may simulate gall-bladder disease or duodenal ulcer is frequently encountered and may offer a difficult diagnostic problem. Such atypical attacks of colic are often due to a mild, intermittent hydronephrosis, which may be determined best by an excretory urogram (Fig. 2). If the disease is only moderate in degree, a retrograde pyelogram may not always determine the presence of a hydronephrosis. However, kidney retention after the one-hour period may be indicated on the excretory urogram.

When roentgen examinations of the colon show no disease, symptoms referable to the colon may be due to a stone in the ureter, an opaque or nonopaque stone in the kidney, or any lesion of the kidney which may produce referred pain to the colon. Frequently, the primary lesion for a nodular infiltration in the chest cannot be determined. If the masses are large, a hypernephroma of the kidney should be considered. A destructive lesion in the bone might be a metastatic hypernephroma, and an excretory urogram in most instances will determine the presence or absence of such a lesion. The same pro-

cedure also applies to the determination of the etiological factors in an obscure anemia.

A large group of our patients with definite lesions of the kidney have had a normal urine, and the above group of cases are assumed to have been free from definite urinary symptoms.

As hematuria and pus in the urine are due to pathologic change in the urinary tract, an excretory urogram may be of help in locating the disease. However, such obviously urological cases should be referred to the urological department for cystoscopy. Excretory urography may be indicated in back pain of obscure etiology. A nonopaque stone in the kidney, a ureteral stone, a tumor of the kidney, or hydronephrosis occasionally may be the cause of such an attack of pain. The varying degrees of density of the excretory urogram from concentration of the opaque media in the pelvis (Fig. 3 A and B), will often reveal on the five minute film a stone which might be obscured entirely after one-half or one hour intervals. Likewise, the stone may be obscured by retrograde pyelography.

If the ureter is not completely blocked with the resultant nonfunctioning of the kidney, stones in the ureters (Fig. 4 A and B) are studied best by an excretory urogram. Such an examination determines whether or not the kidney is functioning, and the degree of such function. By this method, it is possible to determine the extent of damage to the corresponding kidney when the ureter contains a stone and is partially obstructed. From the patient's standpoint, the excretory urogram determines whether the physician may procrastinate, or whether the stone should be removed immediately. However, this problem should be decided by the urologist. In the presence of a stone or stones in the kidney, excretory urography to determine the presence of intermittent obstruction, or the amount of kidney damage (Fig. 5), will indicate whether or not it is advisable to delay treatment of such a condition.

Excretory urography during pregnancy may determine the cause of backache and other obscure symptoms. In such cases, the usual excretory urograms are made in the first hour period, to be followed by a film two hours after the introduction of the dye. This method will determine the degree of ureteral dilatation which often accompanies pregnancy, and may demonstrate a

marked degree of hydronephrosis in one or the other kidney.

In children with frequent urination, an early excretory urogram may reveal congenital diseases in the urinary tract. Proper treatment in an early stage may entirely relieve their symptoms and often save their lives. Likewise, large tumor masses in the abdomen in children may be located by an excretory urogram. The procedure for excretory urography in infants as described last year by Nesbit and Douglas¹ has been a great help in some diagnostic problems in children.

The purpose of this discussion has been to show some of the important procedures for the diagnosis of obscure clinical symptoms by examination of the urinary tract with excretory

urography. However, this carries with it a great deal of responsibility, and, in undertaking the interpretation of such examinations, the roentgenologist should have a wide knowledge of the pathologic changes found in diseases of the urinary tract which are demonstrable on the roentgenogram, as it is obvious that error in diagnosis may be worse than any attempt at such an examination. When properly evaluated, however, excretory urography constitutes one of the most valuable procedures in modern clinical diagnosis.

Reference

1. Nesbit, R., and Douglas, D. A.: Subcutaneous administration of diodrast for pyelograms in infants. *Jour. Urology*, 42:709-712, (November) 1939.

ENDOCRINE DISTURBANCES IN RELATION TO SKIN DISEASES*

FRANCIS W. LYNCH, M.D.

Clinical Associate Professor, University of Minnesota
Saint Paul, Minnesota

ENDOCRINE disturbances exert a powerful influence on the skin and its appendages and the cutaneous changes afford considerable diagnostic aid in many of the classical endocrinopathies. A review of these diseases will point out most of the important endocrine influences on the skin.

In both hypersecretion and hyposecretion of the thyroid gland and adrenal gland, the function and structure of the skin are disturbed. A dry, coarse skin and brittle nails are observed even in mild hypothyroidism and in well developed myxedema the thickened skin is still more diagnostic. In contrast, in hyperthyroidism the skin is moist and fine. Diffuse alopecia may be found in both conditions. In adrenal cortical hypofunction (Addison's disease), hyperpigmentation is almost always present and is often the most striking sign, while with overactivity of the adrenal cortex the skin may be red, dry and coarse and in some cases acne and hirsutism are prominent features of the disease. Acromegalic individuals present coarse hirsutism and pigmentary changes associated with a dry, thickened

skin showing hypertrophy of both epithelial and mesenchymal elements, occasionally manifested by the appearance of cutis verticis gyrata. In Cushing's syndrome (basophilic adenoma of the pituitary) hirsutism, acne and striae are characteristic features. Simmond's disease, resulting from loss of function of the pituitary gland, is associated with a dry skin and loss of hair. Disturbed sexual function is also observed with gonadal and adrenal cortical tumors and hirsutism may be an early sign of such disturbance. Similar characteristics are associated with tumors of the thymus or pineal body where the general overdevelopment of the body results in premature pubescence.

Analysis of these classical endocrine disturbances shows that most of the cutaneous anatomic structures and functions are directly influenced by endocrine associations. The endocrine influence on pigmentation is of the greatest importance, the adrenals having undoubted dominance over pigment production while the pigmentary changes evident in thyroid, ovarian and pituitary disease are probably due to the influence of these organs on the adrenal glands. Direct pituitary influence on pigment production in man has not been proved, though in cold-blooded vertebrates

*From the Division of Dermatology, the Medical School, University of Minnesota, Dr. H. E. Michelson, Director.

Special lecture delivered before the second annual meeting of the American Academy of Dermatology and Syphilology, Philadelphia, November 8, 1939.

the secretion of the intermediate portion of the pituitary gland has been clearly shown to influence the functional erythro-, melano-, and xanthophores.

That the character, growth and distribution of hair are more influenced by the endocrines than by any other factor may also be deduced by analysis of the classic endocrinopathies. Clinical observation and experimental studies suggest that the texture of the hair is controlled mostly by thyroid function, growth is chiefly subject to the pituitary gland and the distribution of hair is a result of gonadal activity.

Endocrine influence on the skin is by no means limited to the direct relations already enumerated. The general growth and development of the body are influenced and perhaps dominated by the pineal and the thymus. Metabolic activity is subject to thyroid function, the pituitary gland regulates water balance in the tissues and influences the metabolism of carbohydrates and lipoids, while final mastery of carbohydrate metabolism is given to the pancreas. If recent work on pancreatic hormones can be accepted then cutaneous lipoidoses and perhaps psoriasis can be related with the endocrines. The blood platelets and possibly other elements of the blood are influenced by the cyclic changes of menstruation. When one reviews these actions of the endocrine glands on the functions of the general tissues of the body, one is amazed that even more cutaneous diseases do not exhibit a closer association with endocrine disturbances.

The skin is directly influenced by vitamin deficiencies but also indirectly through their action on the gonads and possibly on other glands.⁸ A number of cutaneous diseases are characterized by sensitivity to light and endocrine disturbances are probably related to this type of sensitivity.⁹ Cutaneous hypersensitivity, in a broader sense, accounts for a large share of dermatologic conditions and the association between allergy and endocrinopathy has possibilities that have not yet been explored. That some interrelationship is present can not be doubted; hyperthyroidism is known to exaggerate allergic symptoms and estrogenic activity apparently decreases allergic tendencies.⁷

In the group of diseases which Becker regards as neurodermatoses there are many signs of endocrine activity; of these, the lowered blood pressure, vascular dilation or constriction and

emotional changes are most significant. The lowered metabolic rate is further evidence of such association. Both the central nervous system and the autonomic system are subject to hormonal influence and it is evident that perception of pain and itching are not free from endocrine control.

To review briefly, endocrine disturbances relate to skin diseases in a variety of ways. Specific influence of a number of the glands of internal secretion is manifested obviously in the classic examples of endocrine disease. Under less pathologic conditions there is nearly complete control over many cutaneous functions, especially hair growth and pigment production and all the tissues are influenced by the endocrine relation to water balance, metabolism, avitaminosis and allergy.

Clinical observation of numerous cutaneous diseases shows that the integument is affected even further. The spontaneous regression of ringworm of the scalp at puberty, the development of striae in pregnancy and the herpetic and urticarial eruptions of pregnancy cannot be easily explained by the mechanism so far described. In other diseases the association may be less obvious but no less important.

Since the hormones act on all tissues, one might expect endocrine influence in those cutaneous diseases which are essentially systemic. Detailed discussion is of doubtful value because so little is yet known but syphilis is one disease which is without doubt influenced by the endocrines. The difference in the course of syphilis in the sexes and the favorable influence of pregnancy are well established clinical observations. In experimental studies a number of endocrine influences have been noted. As reviewed recently by Kemp⁴ one finds: (1) a more severe course in male animals; (2) a favorable influence through pregnancy; (3) the course modified favorably by administration of theelin; and (4) castration resulting in a less severe course. The importance of these observations is very evident but the instability of this knowledge is underscored in the next pages of the same journal, where Hu³ reports contradictory results after castration.

In contrast with the endocrine influence on systemic disease, an extensive systemic disease may influence the glands of internal secretion. Generalized exfoliative dermatitis exerts such a

general systemic influence and in association with this disturbance a number of endocrine abnormalities have been demonstrated. It has been suggested that these abnormalities might be the cause of the cutaneous involvement² but it appears more likely that they may be the result of the extensive disturbance of the functions of the skin.

Dermatoses Affected by the Endocrine Glands

We come now to a consideration of those dermatoses influenced by endocrine activity. It may be well to classify them into: (1) those essentially endocrine in nature; (2) those diseases where endocrine influence is obvious though other factors may be equally or more important; and (3) the cutaneous diseases where endocrine disturbance is probably or possibly of importance.

Among the cutaneous changes which are essentially endocrine are all those processes associated with the classic endocrinopathies which were enumerated at the beginning of this paper. There are in addition the more circumscribed lesions which occasionally serve as diagnostic aids in diabetes and thyroid disease. In necrobiosis lipoidica diabetorum, as in diabetic xanthomatosis, the cutaneous lesions do not result directly from endocrine influence but rather indirectly through the disturbance in nutritional metabolism (hyperlipemia). Localized myxedema is less easily explained. The characteristic nodules and plaques on the lower legs are associated with clinical hyperthyroidism but in a few cases having a more generalized distribution, the administration of thyroid substance has been followed by improvement.

There is some doubt as to the propriety of listing acanthosis nigricans as essentially endocrine, but the cutaneous as well as systemic changes are somewhat comparable with those of Addison's disease. Chromaffin tissue insufficiency is demonstrable in both conditions, but in Addison's disease the cortical hypofunction is more evident. Hemochromatosis shows resemblance to both these diseases. Though the pigment is not of cutaneous origin its deposition in the skin is often a diagnostic aid and the presence of diabetes justifies placing this condition with those having endocrine significance.

That there is a relation between the endocrines and hypertrichosis is almost certain, though in

the mild examples the endocrine abnormality may not be easily demonstrable. In more severe cases of hypertrichosis it is common to obtain a history of menstrual abnormality or thyroid disease present at the onset even if not evident at the time of examination. Certainly one should never employ electrolysis until a complete history and examination have indicated that a pituitary, ovarian or adrenal tumor is not present.

The association between the endocrines and the loss of hair is not so clear. Certainly there is no adequate proof of such a relationship in alopecia areata or in the "hereditary" type of baldness. Therapy with pituitary gland extracts failed to live up to expectations. There remains a possibility that baldness is an hereditary trait associated with some type of mild endocrine dystrophy.

A number of rather vague and indefinite dermatoses are associated with the menses and thought to be more common when menstrual disturbances are present. It is possible that many such cases in the older literature were unrecognized examples of dermatitis medicamentosa resulting from the repeated use of analgesics or antispasmodics. The characteristic menstrual dermatoses have a tendency to occur on the face or the extremities and in many cases their urticarial or eczematous appearance suggests an allergic mechanism. The reports of clinical studies of attempts at desensitization have not been very convincing.¹ The occasional occurrence of menstrual purpura may result from the cyclic changes noted in the blood (low platelet counts) or from changes in the permeability of the cutaneous vessels.

The endocrine changes taking place at the menopause are so extensive and so variable in degree and duration that one would expect more numerous cutaneous changes to accompany them. "Hot flashes" and edema are commonly met with but are not of dermatologic interest. Pruritus is occasionally observed. Other cutaneous diseases are often aggravated at or just before the menopause but perhaps the only dermatosis characteristic of this period is keratoderma climacterium, often associated with obesity, arthritis and hypertension. The circumscribed hyperkeratotic papules on the palms and soles bear some resemblance to the keratotic changes seen in acromegaly and in hypothyroidism. The

administration of thyroid medication is reported to have a favorable action in some cases; theelin should also be given a trial.

Kraurosis vulvæ and the somewhat comparable conditions in the male appear to have a distinct relationship with the menopause and other sexual changes, though endocrine therapy is usually unsuccessful. The physiologic atrophy of the external genitalia which normally follows the menopause should not be confused with kraurosis though it doubtless has been so confused, particularly in cases where pruritus or leukoplakia were also present.

The relation of endocrine disturbances to anal and genital pruritus is far from clear. There is no doubt that the changes associated with the menopause are of importance in many cases of vulvar pruritus but in only a few cases does complete relief follow the use of endocrine therapy by injection or inunction. The general pruritus accompanying the structural and functional changes of senile skin is endocrine in a general sense though both local and systemic therapy have been of little avail.

A number of cutaneous changes are associated with pregnancy. Hyperpigmentation (linea nigra) and striae are normal accompaniments and the chloasma of pregnancy is common; the latter usually disappears within a few weeks after termination of the pregnancy. Multiple small sessile or pedunculated fibromas occasionally develop during pregnancy and usually regress or disappear on its termination. Localized or generalized telangiectases or angiomas are rare accompaniments of pregnancy. Urticaria and herpes gestationis are not common and should probably be regarded as manifestations of a toxemia. The urticaria of pregnancy may be mild and transitory but in a few cases it is extensive and the pruritus may be uncontrollable. Herpes gestationis so closely resembles dermatitis herpetiformis that many observers regard them as identical. Even in the more common herpetiform dermatitis, there is frequent association with the menses or some distinct endocrine abnormality.

There must be a relationship between endocrine disturbances and the several seborrheic states. Between acne and endocrine function there is an association but there is little evidence as to its nature. Endocrine therapy for acne has been particularly disappointing when ap-

plied routinely, though thyroid substance, estrogens, and occasionally ovarian extract, are beneficial in selected cases. There appears to be some relation between rosacea, menses and the menopause but endocrine therapy is unsatisfactory. Extensive chronic seborrheic dermatitis is not infrequently associated with endocrine disturbances but it is not known whether the relationship is causal or whether there is merely a common association with some other underlying factor.

The structure and activity of the apocrine glands are surely influenced by hormones and Fox-Fordyce disease and suppurative hidradenitis are thus subject to endocrine relations. To what extent they may be regarded as endocrine disturbances remains unanswered.

Since dryness of the skin is often a sign of endocrine disturbance, it is only natural that ichthyosis should have been suspected of a similar association. Careful study of such cases fails to demonstrate any relationship and the results of endocrine therapy are usually unsatisfactory.

Pityriasis rubra pilaris and epidermolysis bullosa may also be mentioned as having an hereditary influence and are thought by some to be of endocrine etiology, though there is little proof and the results of endocrine therapy are unsatisfactory. Vitiligo is now in a similar category but it is more possible that future studies may demonstrate some endocrine dysfunction associated with this pigmentary abnormality.

Scleroderma has long been suspected of endocrine significance and not rarely it is reported in association with one or several endocrine dysfunctions. The administration of thyroid substances and in some cases the use of estrogenic or pituitary extracts appears to be followed by improvement. The experimental studies which suggested a relationship with the parathyroid glands have not been supported by further evidence but future study may clarify this distressing disturbance.

In connection with the parathyroid glands, one must mention calcinosis because these glands have so great an influence on calcium and phosphorus metabolism. In the majority of cases of calcinosis cutis the condition seems to be a local degenerative change rather than a systemic disease; in the few cases where it is a result of systemic disturbance, it has been impossible to incriminate the parathyroid glands. There is some evidence that impetigo herpetiformis is

associated with parathyroid deficiency and responds to therapy with parathyroid extract.

Through the autonomic nervous system the adrenal glands and possibly other endocrine structures have a considerable effect on the vascular supply of the skin and on numerous dermatoses, particularly those of the face and extremities. It is certain that the following conditions are thus modified or even given predisposition: livedo, acrocyanosis, erythema induratum and various forms of pernio. There is some evidence that acrodynia is closely associated with adrenal cortical disturbance.

There are undoubtedly numerous additional dermatoses where endocrine influences might be suspected of playing a part, but I have attempted to confine my discussion to those where such relationship seems evident though not necessarily proved. In considering this group of cutaneous diseases, it would be strange if subsequent advances in knowledge should not find me mistaken in many of my judgments.

Therapy

In spite of the many examples of endocrine relation to cutaneous disease the dermatologist needs little knowledge of endocrine therapeutics. In the cutaneous disturbances associated with the classical endocrinopathies, dermatologic assistance is chiefly diagnostic.

In the specific dermatoses known to be related to the glands of internal secretion, the endocrine disturbance is rarely amenable to therapy. In most of the dermatoses associated with pregnancy few would yet be bold enough to introduce endocrine therapy. My opinion as to the relative unimportance of hormonal therapy in acne has been expressed elsewhere;⁶ in the great majority of cases of acne, rosacea or seborrhea, treatment by other means is more successful; in the few cases with demonstrable endocrine abnormality, thyroid substance, ovarian extracts, estrogenic or possibly even androgenic agents may be successful.

It is with the menstrual dermatoses that endocrine therapy may soon have its greatest application but present chemical and biologic methods of study usually fail to demonstrate the exact nature of the underlying disturbance. In those cases with additional clinical evidence it is less difficult to select the proper therapeutic agents.

If some dermatologists do not agree that ther-

apy should be left to the endocrinologists, it may be well to recall the dermatologic attitude toward the indiscriminate application of antisyphilitic drugs in years past. During the stage of development of therapeutic modalities as powerful and yet as little understood as some endocrine substances, it is best that the indications, dosage and technic be developed among one group of clinicians, later to be applied by all practitioners, as is now true with antisyphilitic agents. Endocrine therapy is becoming increasingly more rational and it is not unreasonable to hope that by the time the true association between numerous dermatoses and endocrine disturbance has been demonstrated, the proper application of therapy will not be difficult. In the meantime, the haphazard application of endocrine therapy is of little help to the patient and certainly no aid to the progress of dermatology.

Summary

Since almost every type of endocrine disturbance has some visible effect on the skin and the normal character of the skin is dependent to a large degree upon a normal endocrine system, one would expect numerous dermatoses to be closely allied with endocrine disturbance. In practice a close alliance is seldom demonstrable, though in a number of cutaneous diseases there is a distinct endocrine influence. The very large number of dermatoses whose cause and pathogenesis are unknown leaves the possibility that some may be essentially endocrine but there are only a few where this appears likely. Although it is possible that more numerous chemical and biologic studies might demonstrate such a relationship, it seems more likely that newer methods of study must first be developed.

A more rapid advance in knowledge of the obscure actions of endocrines on the skin is delayed by the expense connected with experimental work in this field and by the lack of dermatologists capable of doing this work. There is slight consolation with less rapid advances in that there will be fewer errors requiring correction later. The irregular and frequently inexplicable course in even the better known endocrine disorders should make one suspicious and not too enthusiastic in observations on the course or the treatment of individuals or small groups of patients with dermatologic disorders of doubtful endocrine significance. Reports un-

accompanied by chemical or biologic studies must be reviewed in a most critical light. In connection with the favorable reports on the use of estrogenic agents in numerous dermatoses and with desensitization in acne and "menstrual dermatoses," critical analysis and confirmation should precede general acceptance and application.

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MATERNAL MORTALITY AND FORCEPS DELIVERIES

FRANK A. LA BRECK, M.D.

Eau Claire, Wisconsin

IN THE delivery of obstetrical patients, efforts are continually being made to combat infections at their source. Rectal examinations in the course of labor and locating the heart beat to diagnose the position of the fetal head are replacing vaginal examinations of former days. Other measures to insure antisepsis and asepsis include sterile draping of the patient, a ten-minute scrubbing period before putting on sterile gloves and gowns, and the wearing of masks over the nose and mouth by nurses, interns and the attending physician.

And yet, little emphasis is placed upon such a potential source of maternal infection as the application of obstetrical forceps. In 1931, at the White House Conference, Plass³ reported that, in a series of 145,812 obstetrical cases, forceps were used in 17.9 per cent. Not only is infection introduced by the operator's hands or the instrument itself, but the forceps traumatizes the mucosa and musculature of the generative canal, and thus reduces the blood supply and vitality of the tissues, creating an ideal culture medium.

One application of the forceps may carry infection into the vaginal tract and uterus. Additional applications multiply the likelihood of infection. Yet, De Lee,² in the latest edition of his book on "Obstetrics," describes a method of rotating the head from an occiput posterior to an occiput anterior position, 180 degrees, through forceps manipulations in which four separate applications are required. Vedder⁵ advocates the use of the Kielland forceps for such a maneuver.

But in the method he advises, the forceps are re-applied for each three to five degrees of rotation accomplished, thus necessitating between 30 and 60 different applications of the forceps.

Certain factors, such as pelvic types and different presentations of the fetus make the use of forceps imperative. For instance, in the android and anthropoid types of pelves, Caldwell¹ and his associates found it necessary to reverse the Scanzoni maneuver and rotate the occiput anterior presentation to the occiput posterior position by forceps manipulations. This occurred in 23.2 per cent of their series of 215 cases.

These two types of pelves have compensatory space posteriorly, the anterior part of the inlet being narrow. A small baby frequently will come through. But, if it passes the inlet in the posterior position, difficulty in rotation usually occurs. Consequently, when these pelvic types are recognized, the operator will find delivery of the head with forceps in the persistent posterior position the method of choice.

Furthermore, it is mechanically wrong to attempt the rotation of the fetal head from a wide diameter through a narrow one. This principle holds true in the delivery of the aftercoming head of a version and breech extraction. Hence, if it is possible, it is logical to rotate the head to an occiput posterior position in the inlet itself in order to deliver the head with the occiput posterior. Titus,⁴ in his latest book on obstetrics, advocates this procedure in the delivery of the android and anthropoid types of pelves.

Moreover, the application of any of the forceps now in use, all of which have a fixed pelvic curve, does not allow the head to flex, extend or rotate during traction on the forceps. As a result, unnatural relations occur in the birth canal during traction with forceps. Both trauma to the baby's head and to the mucosa and musculature of the generative tract result.

With these basic and other corroborative facts in mind, the author felt there was adequate cause for continued study and improvement of all known methods of forceps usage and construction. Broadly, the question presenting itself was, "How might forceps be designed and used in order to reduce maternal, natal and neonatal deaths?" Infection and reapplication of forceps seemed the principal criteria from which arose the problem, "What are the requirements in forceps design?"

Since delivery by forceps occasions unnatural relationships between the passenger and the passage, it is the task of the designer to have forceps made in such a way that they comply as closely as possible with the natural factors which effect birth. In this connection, two essentials must be kept in mind. In the first place, it is best for both mother and child to terminate any forceps delivery as quickly and simply as possible. Secondly, as is true for all operative instruments, absolute asepsis is requisite.

On these premises, the technical problem may be summarized in the following points:

1. Rotation of the child's head should be unrestricted by the operator's grip on the forceps handle. This might be avoided by a universal joint.
2. Movement of the head in the longitudinal axis of the birth canal requires a flexible forceps to avoid injury.
3. Pressure of the blades on the head should be reduced to a minimum. The head, while in the forceps, should be free to flex, extend and rotate during traction.
4. The usual stiff bond between the head of the child and the operator's hand should be eliminated by a full universal joint.
5. Reapplication of forceps should be reduced to a minimum, which it would be by inclusion of a universal joint.
6. Simple construction, safety of manipulation and absolute asepsis are imperative.

7. The forceps blade should automatically change its pelvic curve during any rotary movement in order to follow the curve of the bony pelvis.

8. It should be an all-purpose forceps incorporating ease of application and axis traction.

9. It should give equal dilation of all parts of the vaginal canal during traction, thus preventing deep muscular tears into the rectum.

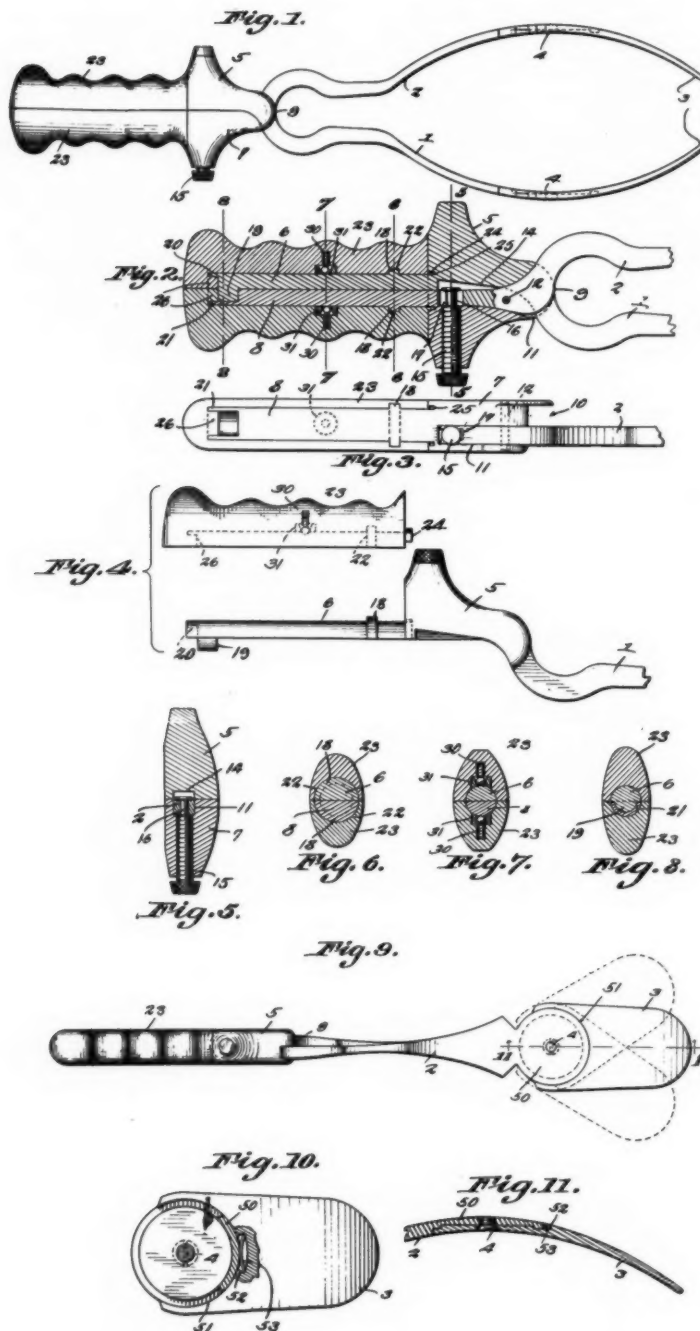
10. By avoiding the necessity of reapplication, it should eliminate reversion of the head to its original position during rotation.

Among previously designed forceps, there is not one which solves the problem of flexion, extension and rotation of the child's head in such a manner that the entirely unhindered, yet powerful work of pulling can take place. This fact is most obvious in the forceps that have been most practical and applicable. Actually, in the most common case in which delivery with the aid of forceps is necessary, the head must rotate and the entire forceps must rotate with it. There is also no provision for flexion or extension of the head with the ordinary forceps.

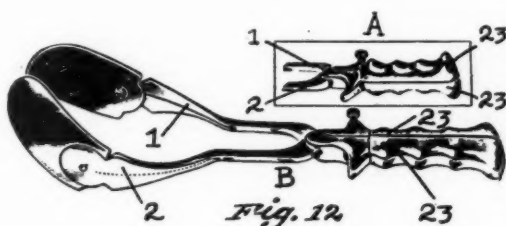
With most forceps, if the operator resists the rotary tendency, the head, due to the pressure exerted upon it by the walls of the birth canal, must turn within the blades. If the physician rotates the forceps now in use, the head is injured by the blades and the soft parts of the birth canal are torn. These damages might result, even though the head is held in the forceps in the seemingly correct position. When the pelvis is normal, the forceps case may progress satisfactorily. But, if there is a deformed pelvis, the ill-effects of a so-called normal position become obvious.

Then, too, if the blades of the forceps serve only to hold the head tight or firm, as in the so-called axis traction forceps in which the handles are locked in a position by a screw and wing bolt while a special traction handle is attached to the blades, the head has more room for rotation. In this manner, it is easy to secure rotation despite the addition of extra metal arms which are awkward, difficult to apply and now seldom used. If, however, the physician holds the traction handle tightly, he hinders rotation, even though it is easier to follow the natural movement of the head with this instrument than with ordinary forceps. The one advantage of the old axis traction forceps is that by separating the pulling

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mechanism from the clamping mechanism, the side pressure of the blades is reduced to a minimum. With the ordinary forceps, such as the Simpson or De Lee type, the attendant must



clamp the head with the handles while, at the same time, pulling them. It can be seen that even in the hands of the most expert, it is inescapable that the head will be compressed more than is really desired, due to the need for keeping a firm grip in the forceps.

With these criteria for the ideal forceps and the faults or disadvantages of other forceps in mind, the author has designed a new forceps, the primary object of which is reduction of fetal, maternal and neonatal mortality. These new forceps resemble De Lee's modification of the Simpson forceps. They are as easily applied, and the blades, being thinner, will occupy less space in the birth canal. The possibilities of free rotation, flexion and extension of the head, as well as the insertion of an elastic mechanism for the purpose of overcoming the friction of the head, is the goal sought.

In the Drawings

Figure 1 shows in top plan, a pair of obstetrical forceps constructed in accordance with the invention.

Figure 2 is a longitudinal section wherein parts appear in elevation.

Figure 3 is a plan view showing one member of the forceps, parts being broken away.

Figure 4 is a composite elevation showing one of the lever members of the forceps, and its grip, in spaced relation to each other.

Figures 5, 6, 7, and 8 are cross sections taken, respectively, on the lines 5-5, 6-6, 7-7, and 8-8 of Figure 2.

Figure 9 is a side elevation illustrating different positions which the blades may assume during the rotation of the head from occipital posterior to occipital anterior position, or vice versa.

Figure 10 is an elevation of one blade, wherein parts are broken away.

Figure 11 is a section on the line 11-11 of Figure 9.

Figure 12B shows position and grooves of blade locks that slide in shanks No. 1 and No. 2 for locking and releasing blades.

The forceps illustrated comprises levers 1 and 2, terminating in circular, disklike heads 50, received in correspondingly shaped recess 51 formed in blades 3, the blades and the heads being connected by pivot elements 4, for swinging movement in a direction at right angles to that in which the levers open and close. The blades are capable of assuming the positions shown in Figure 9, to facilitate (flexion, extension and) rotation of the head of the infant from occipital posterior position to occipital anterior, or vice versa. An undercut recess 52 is formed in each blade 3, and receives a bowed brake spring 53, bearing in its intermediate portion on the edge of the lever head 50 and preventing too free a movement of the blade under conditions well understood by those skilled in the art.

The lever 1 merges integrally into an enlarged body 5, having a rearwardly-extended, semi-cylindrical shank 6. A body 7 for the lever 2 is provided, and has a semi-cylindrical shank 8, corresponding to the shank 6 of the body 5. The levers 1 and 2 cross, as shown at 9, the bodies 5 and 7 of the respective levers being notched at their ends, as shown at 10, each to receive the other lever, a detachable fulcrum connection between the levers thus being afforded, as is common in the art.

The lever 2 can have relative movement, at the will of an operator with respect to the body 7, to produce opening and closing movement of the lever 2 with respect to the lever 1. This opening and closing movement is not to be confused with the opening and closing movement which the levers have at their place 9 of crossing.

The body 7 is supplied with a longitudinal recess 11, receiving the rear end of the lever 2, the lever being connected with the body, at a point intermediate the ends of the lever, and near the rear end of the lever, by a fulcrum element 12. The body 5 of the lever 1 is supplied with an internal recess 14, which, receiving the rear end of the lever 2, permits opening and closing movement of the lever 2 with respect to the lever 1, on the fulcrum pin 12. An adjusting member 15, such as a screw, is threaded into the body 7 of the lever 2, transversely thereof, the screw being provided at its inner end with a reduced neck 16, rotatably received in a notch or opening 17, formed in the rear end of the lever 2.

On their outer surfaces, the shank 6 of the lever 1 and the shank 8 of the lever 2 are supplied with transverse ribs 18, located adjacent to the respective bodies 5 and 7. On its inner or flat side, the shank 6 has a transverse, laterally projecting semi-cylindrical boss 19, and to the rear of the boss, the shank 6 is provided with a semi-cylindrical, trough-shaped flange 20. At the rear end, the shank 8 of the lever 2 is provided with a correspondingly shaped flange 21, receiving the boss 19 on the shank 6 of the lever 1.

On the shanks 6 and 8, grips 23 are mounted for rotation, transversely of the shanks, the grips having transverse grooves 22 which receive the ribs 18 of the shanks. At its forward end, each grip 23 is sup-

plied with a semi-cylindrical, trough-shaped, longitudinally-projecting flange 24, the flanges being received in correspondingly shaped grooves 25 in the rear ends of the bodies 5 and 7. Near their rear ends, the grips 23 have longitudinally extended, semi-cylindrical projections 26, the projection 26 of one grip being received within the flange 20 of the shank 6, and the projection of the other grip being received within the flange 21 of the other grip 7.

In order to prevent the grips 23 from turning too readily on the shanks 6 and 8, spring-pressed brake pins 30 are mounted for reciprocation in the grips, transversely thereof, the pins having rounded heads adapted to bear on the outer surfaces of the parts 6 and 8, the heads of the pins working through the conical bores of bushings 31, threaded into the grips.

By advancing or retracting the screw 15, the lever 2 can be adjusted in or out on its pivotal mounting 12, with respect to the lever 1, and the forceps, therefore, can be adjusted readily to the size of the head of the infant to be delivered. The grip structure 23-23 can rotate readily on the shanks 6 and 8, and thus the head has freedom to rotate within the pelvis, the head being permitted, automatically, to find the largest pelvic diameter. The device presents a structure wherein a full universal joint movement is possible. The rotary movement of the grips 23 may be regulated by exerting more or less transverse pressure upon them. The mounting of the grips 23 on the shanks 6 and 8 is such that by separating the shanks and rotating the grips, they can be taken off readily, thereby making it possible for the instrument to be taken apart and sterilized.

It will be noted, referring to Figure 12A, for instance, that if the trough-shaped grips 23 are rotated through an angle of 90 degrees, the grips will hold the forceps against opening. The physician, therefore, has within easy control a means whereby the forceps may be locked in position, against spreading.

These forceps may well be considered as new in both principle and design. The swivel, or ball joint bilaterally frees the head from any hindrance traceable to rotation, flexion or extension due to pull of the operator. The head can gradually and fully turn automatically to conform with the diameters of the birth canal in spite of the direction of the pull exerted upon it. Rotation of the head is due to the pressure of the soft portions of the pelvis, especially posteriorly. Rotation, then, is nature's attempt to adjust the fetal head to the compensatory space in the pelvis. It is possible to prevent any hindrance to the free rotation, flexion or extension of the head by the use of the new forceps. Thus, these forceps enable the replacement or substitution of natural labor powers by a forceps operation made to conform as closely as possible with natural conditions.

Most outstanding among the advantages of the new forceps is the fact that it is especially adapted to manipulate one of the abnormal positions, the occiput posterior position to occiput anterior position, or vice versa, when indicated. This is accomplished by rotating the head 180 degrees, if necessary, with but one forceps application. While this rotating movement is in progress, the blades automatically turn themselves to accommodate to the new pelvic position and to the pelvic curve. Delivery can be completed without changing the first application of the forceps or removing them. The fact that a second application of the forceps is not required during or after rotation, should minimize the chances of infections and trauma.

A lock is provided in the shanks to hold the forceps blades in a fixed position. This can be released by the operator after application of the forceps, thus allowing automatic free movement of the blades and the head during rotation and delivery.

An adjustment screw in the right handle can be set after application to a large head to prevent injury to the head from complete closure of the handles. One quarter turn of the outer handle 23, right or left, locks the blades on the head.

The new blades are designed to fit the head, and, consequently, all curves are cephalic. The blades automatically adjust themselves to the pelvic curve when necessary. This contingency is provided for by the joint near the center of the blades, which assists the blades automatically to adjust themselves to the pelvic curve during the movement of rotating the head from occiput posterior to occiput anterior position for delivery.

The author wishes to express his appreciation to the following obstetricians who have accepted the new forceps for trial and given time and effort in the various stages of its development: Drs. Paul Titus, N. J. Eastman, John W. Harris, A. H. Lahmann, H. H. Cummings, J. B. De Lee, Wm. Dieckmann, Fred L. Adair, R. M. Grier, Wm. E. Caldwell, H. C. Maloy, Hugh J. Tunstead, A. B. Hunt, and R. D. Mussey.

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THE CARE OF PATIENTS PRECEDING GASTRIC OPERATIONS*

NORMAN H. BAKER, M.D.
Fergus Falls, Minnesota

PATIENTS with gastric lesions should receive individualized preparation for operation. They usually have a long story of trouble and their lesion is chronic. They are usually past middle age before they require operation, they have been on restricted diets for a considerable length of time and may be suffering from the effects of inadequate intake or assimilation of food. All of these factors can make them quite dejected, a feeling which a growling pain in their midst does little to dispel.

Patients should be placed in a hospital for a time prior to any gastric operation, excepting in the presence of perforation. They should spend at least four days to a week in the hospital. During this period much can be done to correct difficulties which constitute in a large measure the dangers of the operation.

This brief review will be confined to pre-operative measures indicated for common surgical lesions such as chronic ulcers, polypi, and malignant tumors. Patients with other lesions or complicating illnesses may require further preparation. An excellent source of information on this subject is "The Stomach and Duodenum" by Eusterman and Balfour.

Patients otherwise in good condition without stomach retention and without anemia, require no special pre-operative treatment. They frequently are anxious and discouraged. They need rest, relief from pain and want encouragement. One can go a long way to relieve anxiety and to encourage these people by emphasizing a friendly interest. Proper attention to details which may not be important to the surgeon but are to the patient, an explanation to the patient of the course of the disease which has led up to the present need for operation, a careful description of the proposed surgical procedure without dwelling too much on the matter of malignancy or dangers and complications of the operation, will almost certainly produce a happier state of mind. The ulcer patients should be kept reasonably free from pain, should have rest even though opiates be required during this preparatory stage.

Operation on gastric ulcers which are thought to be benign is not resorted to until reasonable intensive medical treatment has failed to produce healing. What constitutes intensive medical treatment must necessarily vary with the individual and the lesion. We have no criteria or combination of symptoms and findings which tell us absolutely whether a gastric ulcer is benign or malignant. Hence we do not have the freedom to spend unlimited time hoping for medical cure.

That nutritional disorders are associated with gastric lesions is frequently evidenced by loss of weight, anemia and dehydration. These disturbances faults should be corrected as far as possible. Many patients are incapable of ingesting or assimilating sufficient food prior to operation, but their nutrition can almost always be improved. Aside from obvious nutritional disorders, we now have proof that individuals with gastric lesions are prone to develop less obvious disturbances due to vitamin deficiencies and insufficient plasma protein. Holman has found that 44% of all free clinic patients in San Francisco, where citrus fruits should be abundant, were deficient in vitamin C and 14% were on the borderline of scurvy. One suspects it may be a higher figure in Minnesota. Ingals and Warren found 90% of their ulcer patients had low ascorbutic acid values in the blood. Evidently ulcer patients are prone to develop this deficiency either because of faulty diets, improper absorption of vitamins, increased destruction of the vitamins, or a combination of these factors. One primary effect on the body of low ascorbutic acid blood values is an inability to manufacture and maintain certain intercellular substances including all non-epithelial cementing substances. It has been proven that wound healing is poor in scorbutic animals.

Anker and Graham found the cause of death to be peritonitis in sixteen of fifty-one patients who died after operations upon the stomach. In twelve of these the bacterial leakage at the site of anastomosis followed an almost complete absence of fibrous tissue response along the suture line. All of which strongly suggests that adequate vitamin C may provide the "missing link" in certain unexplained surgical failures.

*Read before the annual meeting of the Minnesota State Medical Association, Rochester, Minnesota, April 23, 1940.

Holman further found that one half of his clinic patients showed vitamin A deficiency by the Hecht apparatus for stark adaptation. One effect of vitamin A deficiency is on the epithelial tissues, and we need not elaborate on the importance of healthy epithelium in surgical patients.

Vitamin B deficiency is difficult to measure but can cause atonic and weakened gastric musculature.

So it seems, then, that the pre-operative diet should include an abundance of vitamins. One satisfactory method of including this, is the daily administration of haliver oil, two capsules three times a day, four oranges and two lemons with the addition of the entire vitamin B complex in some form during the preoperative period.

Of late years evidence has accumulated that successful healing is dependent in some degree, at least, on sufficient plasma protein. Ravdin in particular has emphasized the resulting edematous stomach and disrupting wounds associated with lack of sufficient protein. Hence, we should attempt to raise the protein level to 7.5 gm. per 100 c.c. of blood before operation is undertaken. If the patient cannot ingest sufficient food, transfusion with whole blood is an effective means of increasing plasma protein.

Gastric retention is a frequent complication of these lesions and demands effective measures for control during the preoperative period. Eusterman outlines the signs and symptoms of retention as follows: "The outstanding features that denote need of treatment are dehydration, low output of urine, low blood pressure, shock-like prostration, high non-protein nitrogen content of the blood, low plasma chloride, enhanced CO_2 combining power of the plasma and in extreme cases tetany."

He further states as to the treatment: "In the management of gastric retention, feedings are given every two hours commencing at 6 A.M. and ending at 8 P. M. Each feeding consists of 200 c.c. of concentrated semi-solid carbohydrate food." Excluded from these foods are alcohol, meat broths, meat extracts and plain milk. Aspiration should be done three or four times daily before feedings, the frequency depending on the distress and amount of retention. At least 1,000 calories should be given daily. Many patients will be able to take more food and will require less frequent aspiration. As much food as possible for the patient to handle should be given

and the fluid intake should maintain the urinary output above 1200 c.c. per twenty-four hours. Certain patients will not tolerate sufficient food or fluid in this way and fluids must be given parenterally.

Occasionally, retention produces intoxication which may be very severe and may even result in tetany. Should intoxication be severe and tetany threaten, 5 c.c. of 10 per cent calcium chloride solution should be given intravenously, followed by glucose in saline. McVicar has shown how the poor condition of the patient with retention intoxication parallels the increase in blood urea, increase in CO_2 combining power of the plasma and a decrease in blood chlorides. The treatment consists of the administration of glucose and saline, combined with the measures previously outlined to relieve retention, until these factors approach normal.

The loss of weight and strength which accompany gastric retention frequently cannot be entirely replaced prior to operation. However, adequate fluid balance and reserve glycogen can be obtained, and intoxication controlled and the condition of the gastric wall improved by these measures.

Frequently these people have secondary anemia of varying degree. Sometimes this will require transfusion before operation. It is surprising, however, how well these patients with low hemoglobin values stand operation. Usually the effect of transfusion is more beneficial after the operation than before.

Occasionally repeated severe hemorrhage from a gastric lesion brings up the question of emergency surgical intervention to control the bleeding. This is always a grave situation and the matter of surgical treatment is, to say the least, debatable. Fortunately, with starvation, strict bed rest, and the use of opiates, the bleeding usually stops. Then the surgery, if indicated, can be delayed until a more favorable time.

Perforating lesions of the stomach may be subacute or "walled off" or a "slow leak." Usually these should be promptly attacked by surgical means as there is little hope that they will improve otherwise. Aspiration of stomach contents, continuous nasal suction drainage and the administration of fluids are indicated, prior to operation. If the perforation is old and considerable soiling with peritonitis has made the patient critically ill, the method used by Wangenstein of con-

tinuous aspiration, parenteral administration of fluids and subsequent drainage of the abscesses is probably safer than immediate intervention.

Acute perforation of a gastric lesion does not allow any time for preparatory treatment. Here of all places, procrastination, the desire to "make sure," the administration of fluids may cause a loss of time which more than any other factor is fatal. Aspiration of the stomach should be

done but lavage may well spread the contamination through the perforation.

Principles which apply to all surgical preparations should be followed in preparing for surgery on the stomach. High protein content in the pre-operative as well as the postoperative diet aids the healing of tissues. The mouth and upper respiratory tract should be cared for and be as free from infection as possible.

PRE-OPERATIVE PREPARATION OF THE DIABETIC PATIENT*

ARCHIE H. BEARD, M.D.
Minneapolis, Minnesota

THE diabetic patient should not be denied operative procedures because of his diabetes. He is a safe surgical risk if properly treated. Therefore, he should be allowed not only life-saving operations but those needed to make his life more comfortable. If it is a chronically infected gallbladder or appendix or hernia or relaxed perineum that needs to be repaired, there is no reason for denying such a procedure. It should be remembered that if infection is present, the diabetic condition becomes more severe, and in such instances, coma is more likely to occur. Therefore, in either chronic or acute conditions, we need to give the diabetic patient the same consideration as a normal person.

From the physician's standpoint once the diabetes is recognized the problem of treatment becomes more simplified. It is the unrecognized case that is found after surgical interference that has given the tragedy to this disease. The fault rests with the physician, and any normal surgical procedure should not be undertaken until after a complete urinalysis has been made. Remember that the patient may not be aware of his condition. This is true especially of elderly patients who have developed diabetes. Approximately one-third of the patients entering a large New York hospital were found to have diabetes for the first time when entered for a surgical condition. Only in severe infections is the treated surgical diabetic liable to die of his diabetes. It is rare for death to occur in the uncomplicated

case. However, anyone with a disturbed carbohydrate and, in turn, a disturbed fat metabolism can have a serious prognosis. It is for this reason that the coöperation between the medical and the surgical service must be very close, and the internist and the surgeon should have his definite duties assigned. Probably in a large institution the best method is to have one individual from the medical staff and one individual from the surgical staff responsible for the treatment. All cases fall into the following classifications:

1. Those in which the time of operation can be scheduled at a convenient hour.
2. Those in which the time of operation cannot be delayed, and the medical attendant must make every minute count.

Today it is generally agreed that the treatment of diabetes should be under medical management, that the best pre-operative and post-operative care is vitally important, and that, unless an emergency exists, two to three weeks should be spent in preparation for operation. In this period postoperative acidosis can be controlled completely. Each patient can be standardized on an individual diet with the necessary amount of insulin to keep acidosis and glycosuria under control. Today many cases can be controlled with only protamine zinc insulin, one injection being sufficient to cover all but slight glycosuria (one to two hours after one of the three meals). The patient in the first group should have a careful study of his cardiovascular system during this period including an

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electrocardiogram, frequent blood pressure readings, and x-ray of the chest for any cardiac or lung pathology. The ideal time for operation should be determined by blood sugar studies. Probably a blood sugar of 140 to 170 mgs. per 100 c.c. of blood is the ideal level depending upon whether the individual is young or old. In the elderly individual do not attempt to keep the blood sugar at too low a normal level because of possible cardiac embarrassment. The following rules apply to this group:

1. The amount of glucose in the diet and the total amount of daily insulin should be determined.

2. Approximately three hours before operation, one-third of the total glucose (as determined above) should be given by mouth in liquid form only. If regular insulin is used, probably one-third of the regular amount (as determined above) should be given. If protamine zinc insulin is used, allow approximately one-half or two-thirds of the total amount of daily injections. Following this procedure, it probably is safer to return to regular insulin until the patient has recovered.

3. The urine should be examined for sugar and acid bodies approximately two hours after the operation and every two hours for the next forty-eight hours.

4. Blood sugar determinations should be made about three hours and again twelve and twenty-four hours after the operation, even though the urine is free from sugar. In that way early hypoglycemia can be determined. If acid bodies are found in the urine, a carbon dioxide combining power determination should be made at this time.

5. The remaining glucose of the daily diet in the form of liquids (as determined previously) is to be administered in three equal amounts during the next twenty-four hours. If the patient is conscious and has no nausea and no vomiting, the carbohydrates may be given by mouth. Otherwise necessary food and fluids may be given intravenously, e.g., 5 per cent glucose in normal saline.

6. The amount of fluid and saline to be used depends upon the patient's general condition. If no acidosis is present, probably 3,000 c.c. will be sufficient, but if acidosis does develop it may be necessary to give as high as 5,000 c.c. to 8,000 c.c. (Observation for pulmonary edema always should be made.)

7. Twenty-four hours after the operation, place the patient on a liquid diet which can be changed gradually to semi-solid and solid food during convalescence according to the surgeon's instructions. For abdominal operations (especially of the gastro-intestinal tract), this probably cannot be done so readily. Fluid by intravenous and subcutaneous routes may be used.

8. Blood sugar determinations and urinalyses should be continued each day until the patient is established on his previous amount of insulin and his pre-operative diet.

The above group is fairly easy to treat, and the patient's progress usually is uneventful from a diabetic standpoint.

The next group of diabetic patients, however, must be carefully observed. It is in these individuals we find our diabetic tragedies, and only by careful hourly observations can dangers be eliminated. At times the patient enters the hospital in acidosis or coma, and the problem at first is a medical one. An operation may be necessary, but the surgeon hesitates to operate until the acidosis is under control. As a rule the person in this classification usually has an acute condition which may demand surgery as soon as possible. The patient usually has a septic temperature. During the time the internist is attempting to control the acidosis, the surgeon must be finding the cause of the fever and attempting, if possible, to give any pre-operative care that is necessary. During this pre-operative period, blood sugar determinations, carbon dioxide combining power determinations, blood urea nitrogens, and blood chlorides, as well as hourly urinalyses and complete blood counts should be made. Many individuals with the diagnosis of diabetic coma are unconscious from some other cause at the time of admission to the hospital, and many cases of coma are sent to the hospital under other diagnoses. The most frequent error made in a diabetic patient is to accept a diagnosis of an acute abdominal condition because of fever, nausea and vomiting, and localized abdominal pain and rigidity. These individuals may even be found to have a high white count. At times it is a problem to decide if the patient has diabetic coma with appendicitis. We all have seen individuals a few hours after operation who were operated on with two little scientific data. In turn it is not uncommon for the surgeon and the internist to meet over this type of abdominal condition. It is only after all available data can be obtained that the proper treatment can be instituted. Whatever diagnosis is made, the acidosis and coma must be treated first, and if the internist can be given a few hours the final results will be more encouraging. Whatever the cause of the acute condition, the diabetic must be treated first for acidosis. These patients often are dehydrated and in shock, and means must be taken toward clearing up the acidosis. This in turn will combat the state of shock the patient may have from his acute infection.

Only after the first urinalysis and the above blood studies have been made should insulin be used. Remember even though the patient has been known to be using protamine zinc insulin in the past, regular insulin should be used at this time in order to more rapidly relieve the acidosis. The treatment of diabetic coma is, first, to combat the dehydration, and, second, to treat the acidosis. At this time we may not be able to eliminate the glycosuria before the patient is to be taken to the operating room. However, glycosuria itself is never the cause of death in these individuals, but the amount of acidosis and shock are in direct proportion to our mortality.

In the treatment of coma the immediate need is fluid and sodium. Insulin does not exhibit its complete effect until body fluid has been restored. The treatment should be as follows:

1. The patient should have absolute rest in bed. It is advisable to have a special nurse.
2. The patient's body warmth should be maintained with blankets and hot water bottles.
3. Catheterization of the bladder probably will be necessary especially if the patient is unconscious and cannot coöperate. In this case a retention catheter should be inserted. This is not advised by all clinics, and there is some question as to whether or not it is a logical step. At the University of Minnesota Hospitals we have found that it gives us a great deal more information about the patient during the time he is unconscious and when the urine needs to be examined more frequently. The urine should be examined for diacetic acid and sugar every one-half to one hour depending upon the severity of the case.
4. Lavage of the stomach may be necessary. At times sodium bicarbonate solution may be used.
5. The lower bowel should be cleansed with an enema.
6. Fluids should be administered through all avenues. Normal saline should be given by proctoclysis and hypodermoclysis. Today sodium bicarbonate still is used in the treatment, but it should never be used subcutaneously because of the possibility of sloughing of tissue. The fluid intake and output should be measured and recorded. The fluid intake should be between 5,000 c.c. to 8,000 c.c. in twenty-four hours. Care should be taken that the patient does not develop pulmonary edema. The chest should be auscultated at intervals to determine whether this is occurring. Extrarenal uremia, which will be mentioned under prognosis, occurs as a severe complication of coma. This is due to severe dehydration, which may effect the kidneys so adversely that anuria persists even after adequate fluids have been given. Hypertonic saline or glucose may aid in reëstablishing the flow of urine. After the patient has developed consciousness, fluids may be forced by mouth. Clear broth with a liberal amount of salt may be given—also tea, coffee, and water.

7. Glucose should be given in some form by mouth if the patient is conscious; if the patient is unconscious it should be given intravenously or by rectum. Generally 5 per cent glucose in normal saline is used. Hypodermoclysis of glucose is not advised in the treatment of diabetics because of the danger of infection.

8. The use of insulin depends upon the presence and the amount of glucose in the urine. A suggested routine in cases of mild acidosis is to give 40 units of insulin at once, and to follow the urine every hour as long as it is positive for sugar. Forty units can be repeated hourly as long as the reaction is four plus. Usually at the end of two to four hours the amount of insulin must be reduced to possibly 30 units, then 20 and then 10, depending upon whether the test is three plus to two plus (yellow-orange) or one plus to a trace (green). Usually one administers 100 grams of glucose intravenously (in saline solution) for every 100 units of insulin used. This is unnecessary at the outset of treatment in most cases, but it should be begun as soon as the blood sugar has come down below 0.30 per cent or before the urine sugar has become small in amount or negative. This particularly is true when ketone bodies still are present in the urine. In severe acidosis the urine should be examined every one-half to one hour for diacetic acid and glucose depending upon the length of the coma, the height of the blood sugar, and the Van Slyke determination. Usually it is necessary to allow a retention catheter to remain in place until plenty of fluids have been given and the patient has become conscious and coöperative. Another method of using insulin in acidosis is to give 1 unit of regular insulin per kilogram body weight for the first dose, following the urine every half hour until reduction with Benedict's solution is green or until the blood sugar has reached 0.20 per cent. The treatment should be continued until the acidosis has disappeared.

9. Ephedrine or adrenalin should be given for stimulation. Blood transfusion may be of aid if the degree of shock appears to be critical.

10. Alkalies should be administered. Sodium chloride is much needed in acidosis due to dehydration and vomiting. The large amounts of fluid which are given, as mentioned above, serve to reduce acidosis by eliminating ketone bodies. In order to combat the acidosis more directly, sodium bicarbonate or sodium lactate may be given intravenously. It is advisable to give 25 grams of pure sodium bicarbonate solution in 500 c.c. of distilled water allowing one-half hour for this procedure. The bicarbonate is not sterilized, but it is simply dissolved in sterile distilled water. The molar sodium R-lactate solution, which was introduced by Hartmann and bears his name, generally is used intravenously, but it can be used subcutaneously or intraperitoneally if necessary.

The prognosis of this type of case depends upon the blood findings. After reviewing the laboratory methods mentioned above, we can give,

more or less, a prognosis with the following information in mind:

1. A blood glucose of 500 mgs. per 100 c.c. of blood or higher offers a serious prognosis. The higher the blood sugar climbs, the more grave is the prognosis.
2. A Van Slyke (or CO_2 combining power of plasma) below 30 volumes per cent is of serious significance; if it is below 20, it is in a very dangerous zone.
3. A urea nitrogen which is definitely increased is of dangerous significance. High urea nitrogens are accompanied by lowered blood chlorides. These are the result of dehydration, nausea, and vomiting, and are spoken of as extra renal factors in the production of uremia. Marked hemoconcentration occurs, which is one of the most important actual causes of death. In addition the venous and arterial pressures fall. The patient may go into shock, and with this there may be anuria or marked oliguria. In other words, the lesion is not in the kidney.
4. A high leukocyte count and abdominal pain (many times suggesting the diagnosis of appendicitis), also, are serious factors. A leukocyte count of 25,000 to 50,000 is not infrequent in diabetic coma.
5. A patient in acidosis and coma with any of the high figures mentioned above and having fever is critically ill and a favorable prognosis must be withheld.

The choice of anesthesia, although not directly under the medical management, is of great im-

portance. It must be emphasized that among the general anesthetics, nitrous oxide and ethylene frequently are used. Cyclopropane has been used successfully, but ether is more or less disapproved except for narcosis of short duration. Nitrous oxide and oxygen are unsatisfactory for extensive abdominal operations because they give no adequate relaxation. Therefore, ether must be used in certain periods during anesthesia. Spinal anesthesia can be used in operations on the lower extremities and perineum.

In conclusion I want to emphasize the necessity of carefully observing the urine and blood sugar during the post-operative period. When the patient is unconscious and perspiring, it must be remembered that this may be due to hypoglycemia. Convulsions do not always occur in this stage. The alert physician will never be misinformed during this period if he relies entirely on the blood sugar studies. If the urine is not watched carefully, the patient may be treated for coma when he really should not receive any more insulin. This is true especially if protamine insulin is used. Remember the most prominent symptoms of protamine hypoglycemia are nausea, vomiting, headache, and dizziness.

PRE-OPERATIVE CARE IN SURGERY OF THE BILIARY TRACT

E. MENDELSSOHN JONES, M.D.

Saint Paul, Minnesota

LORD Berkley Moynihan often emphasized the fact that the most important person at any operative procedure is the patient. I am certain that this sentiment is reflected in the marked decrease in mortality and morbidity in some of the more serious surgical problems now treated so much more satisfactorily. There is also no doubt that the increasing amount of care and thought now given the preparation of surgical patients plays a major role in the achievement of more satisfactory results.

Cutting points out the three-fold aim of pre-operative care:

1. The establishment of a full and complete pre-operative diagnosis.
2. The minimizing of the risk incident to the contemplated procedure as such, especially by attention to the stabilization of metabolism, selec-

tion of the optimum time or operation, and the correction of such associated morbid conditions as are amenable to medical or minor surgical therapy.

3. The prophylactic treatment of postoperative complications.

When considering an elective operation, adequate time may be used in proper pre-operative preparation, but in the acute cases, one must carry out this preparation rapidly, and administer surgical aid despite possible complicating conditions.

I wish to mention a few things requiring attention in the preparation of a patient for any elective surgical procedure. Oral sepsis is frequently present, and no patient should be allowed to undergo an elective operation until this condition is carefully treated by thorough brushing

of the teeth and the use of a suitable mouthwash.

Mild respiratory infections are frequently the forerunners of severe postoperative complications, and when one such is present, the operation should be postponed until all signs of infection have disappeared.

The overweight patient is nearly always a bad surgical risk, and in an elective case should be placed on a reducing regime before being subjected to an operation. The risk in such cases is great because they often present technical difficulties and are more subject to cardiac and pulmonary complications.

In the aged, elective surgery should be undertaken only after careful balancing of the maximum possible benefit against the operative risk. Mason states that surgery which in younger persons is definitely necessary may prove only meddlesome in the aged. The pre-operative examination in the aged patient may show the various systems functioning efficiently enough, but doing so under low reserve, and the added burden of a surgical procedure is often enough to upset the balance, resulting in cardiac or renal failure. It is, therefore, necessary in the aged patient to be very careful to obtain as accurate an evaluation as possible regarding the renal and cardiac functions when considering any major surgical procedure.

Coronary disease may present a clinical picture very similar to that of gallbladder disturbance, and when this is suggested, a careful differentiation should be attempted. It may be possible to rule out one or the other, but not infrequently both conditions are present. The surgeon may thus have to perform a surgical operation in spite of the combined pathological change, but he is well guarded in his prognosis if he is cognizant of the exact problem with which he is confronted.

Close co-operation between the medical and surgical services should be carried out at all times in dealing with bad risk surgical cases. When gallbladder disease is complicated by jaundice, renal impairment is frequently encountered, calling for careful medical treatment before any major surgical procedure is attempted. This practice also applies when there is an accompanying diabetes, and because of pre-operative and postoperative supervision that is now given, the diabetic patient undergoes operations very well.

The choice of anesthetic is of great importance, particularly when one is dealing with a poor

risk. The many valuable additions and refinements in anesthesia produced in the past few years have been a great aid to the surgeon. It is very comforting to have a trained anesthetist with whom the surgeon may consult and plan the anesthesia as carefully as he plans the operation. There can be no doubt that the improved mortality figures in the more serious surgical procedures is due to improvement in anesthesia, as well as better co-operation between the anesthetist and the surgeon.

In surgery of the biliary tract, we may encounter acute and chronic conditions of the gallbladder with various complications. In every case of biliary disease there is more or less hepatic damage, and in the more severe cases it is frequently accompanied by dehydration. When jaundice is present, there is also a hemorrhagic tendency.

Recent work done at the New York Post-Graduate Hospital shows that the mortality in patients with acute cholecystitis is 15.6 per cent if operation is performed within six hours after admission. If the patient is given twenty-four hours of pre-operative preparation, the mortality is but 7.4 percent.

This emphasis dramatically the importance of thorough pre-operative preparation. It has been found that intravenous administration of five percent dextrose or glucose in normal saline solution affords a satisfactory means of supplying the needed carbohydrates to support hepatic damage, and the saline solution furnishes chlorides and fluids to overcome dehydration that may be present.

There are many surgeons who do not operate upon patients with acute cholecystitis unless the indications point to a rapid progression of the disease, suggesting a possible perforation. When this course is followed, more time is given for pre-operative preparation. The clinical course of the disease is carefully observed to determine the progress of the infection, and this is usually aided by repeated white blood counts. It has been our experience that the white cell count does not give a satisfactory indication as to the extent of the pathologic change present, and we are now relying more on the sedimentation rate for this information.

Usually cases of chronic cholecystitis presenting themselves for surgical care are in the class of patients known as "good surgical risks." How-

ever, one must bear in mind that these patients have some hepatic damage, and should be given a three to seven day pre-operative preparation. They should be given a diet high in carbohydrates and low in protein and fat, but of high caloric value. It is well to remember that cases of chronic cholecystitis having had previous attacks of acute cholecystitis may present a more serious problem and call for a more guarded prognosis.

When there is a history of gallbladder disease of long standing, there is a greater possibility of stones being present in the common duct, thus increasing the operative risk.

Jaundice accompanying either acute or chronic cholecystitis increases the morbidity and mortality rates nearly one hundred per cent. These factors must all be borne in mind when preparing a patient for such types of biliary surgery.

When jaundice is present, it is necessary to combat the hemorrhagic tendency so often present. It has been shown by several observers that the hemorrhagic tendency associated with obstructive jaundice is due to a lack of prothrombin in the blood plasma. The administration of vitamin K in addition to bile salts has been found to be most efficacious in dealing with this condition.

If the prothrombin clotting time is normal, two to six gelatin capsules each containing 200 mg. of alfalfa concentrate and one or two grams of animal bile salts, administered by mouth, is an adequate daily dose. When the prothrombin clotting time is prolonged, the dosage must be increased and continued until the prothrombin clotting time is normal. At the Ancker Hospital, we have been using Kagalin which is a synthetic vitamin K. Satisfactory results have been obtained with a dose of 2 mg. of Kagalin plus 5 grams of bile salts, four times a day.

It is often difficult to choose the advantageous

time to operate on a patient with jaundice, and it is not wise to depend on clinical grounds alone in deciding the course of the jaundice. The study of the serum bilirubin is a sensitive index to the degree and course of the jaundice, and should be depended upon rather than the appearance of the patient. If the jaundice is increasing, operation should be delayed until the patient becomes adjusted to the higher level. If it is stationary, the final decision must be made on the basis of the other clinical factors present. These patients are in the group of bad risks, and are the ones calling for all the support that can possibly be given before any surgical procedure is undertaken.

In this way, the postoperative complications will be fewer, and the mortality and morbidity rates will be kept at a reasonable low level.

It is our experience that blood transfusions are of great benefit in the pre-operative and postoperative case of patients subjected to biliary surgery. Oftentimes, it is well to give the blood pre-operatively and to have additional blood available for immediate administration should the necessity arise.

I again wish to emphasize the fact that close co-operation between the medical and surgical services is imperative in dealing with the more severe types of cases that are encountered in biliary surgery, and also to repeat Sir Berkley Moy-nihan's saying that the most important person at any operative procedure is the patient himself.

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PORTAL OF ENTRY IN TUBERCULOSIS

A consideration of the portal of entry in tuberculosis brings out the following points:

(1) Although alimentary infection is less common than respiratory, it is by no means a negligible factor, especially in children, quite apart from milk-borne disease; (2) in respiratory transmission, the sleeping accommodation is probably the most important single factor; (3) apart from the dust hazard industries, we still know very little about the risks of infection outside the home; (4) both alimentary and respiratory mass infections probably occur in the presence of the advanced case.—S. ROODHOUSE GLOYNE, M.D., *Tubercle*, Feb., 1940.

DIAGNOSIS OF TUMORS OF THE BREAST*

E. T. BELL, M.D.

Minneapolis, Minnesota

A CONVENIENT approach to the diagnosis of tumors of the breast is a consideration of the clinical features of the individual case. These are shown schematically in the following outlines:

I. Single Tumor

1. Adherent: Scirrhus carcinoma—95 per cent; fat necrosis; mastitis.
2. Non-adherent: Deeply-placed scirrhus; medullary or gelatinous; cystic disease; fibro-adenoma.

1. *Adherent Tumors.*—In the case of a single tumor in the breast the most important observation to make is whether or not it is adherent to the skin or deep fascia. The great majority of adherent tumors are malignant, but in rare instances an adherent growth proves to be fat necrosis or mastitis. Palpable axillary lymph-nodes strengthen the diagnosis of malignancy. Unless the diagnosis is obvious one should remove the lump and examine it before proceeding with the radical operation.

2. *Non-adherent Tumors.*—When a tumor is definitely not adherent there is an even chance that it is benign; in young women the majority are benign, in older women most of these are malignant. It is to be remembered that carcinoma is quite rare before the age of twenty-five years and very rare before the twentieth year. Deeply placed scirrhus carcinomas are not adherent and medullary carcinomas, having no fibrous tissue, do not adhere. Tumors that are unusually movable are apt to be fibro-adenomas. Cystic disease frequently appears as a single non-adherent tumor.

In this group it is imperative that the tumor be removed and examined before the operation is decided upon. An aspiration biopsy may be made if one is reasonably sure the growth is a cyst.

II. Multiple Tumors

Multiple tumors in one or both breasts are malignant when adherent and nearly always benign when non-adherent. A carcinoma that has spread through the breast assumes the form of multiple adherent masses. In rare instances a

medullary or gelatinous carcinoma appears as non-adherent masses.

Non-adherent multiple tumors usually represent cystic disease, but rarely they may be fibro-adenomas. It is usually satisfactory to remove the most conspicuous mass for microscopic examination. If cystic disease is found no further operation is indicated.

III. Single or Multiple Ill-Defined Non-Adherent Masses

These usually represent uneven involution of the breast. After repeated pregnancies some lobules do not regress as much as others. Varying proportions of fibrous tissue in different parts may also give the impression of tumors. A clinical diagnosis can usually be made and operation is seldom indicated.

IV. Acute Carcinoma

This is a highly malignant carcinoma which produces diffuse induration of the breast with adhesion to the skin. The appearances are those of an acute inflammation. There is redness, tenderness and local heat and the patient may have a low fever. This is an incurable tumor and a better palliative result is obtained by radiation.

V. Mastitis

1. *Mastitis of Puberty.*—In either boys or girls near puberty there may develop a tender indurated area in the breast. The mass is small and circular and the nipple is in its center. This is a mild self-limited process and requires only local protective treatment.

2. *Exudative Mastitis.*—These are inflammatory lesions that develop usually during lactation or pregnancy. They exhibit the characteristic features of inflammation and are treated accordingly.

3. *Chronic Fibrous Mastitis.*—Masses of fibrous tissue sometimes develop in the breast. They may have a patchy distribution or the entire breast may be converted into a firm mass. It is called fibrous mastitis but there are really no evidences of true inflammation.

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In the male breast the most frequent cause of a mass is chronic fibrous mastitis. It often develops in young men.

VI. Discharge from the Nipple

1. *With a Palpable Tumor.*—Whenever a palpable tumor is found it should be removed and examined. It may prove to be a papilloma or a carcinoma.

2. *Without a Palpable Tumor.*—In these cases the discharge may be bloody or serous. When the breast is removed a small duct papilloma may be found but more often there is merely a cyst com-

municating with a large duct. There is a sharp difference of opinion as to the proper treatment of this group. I have followed several patients with a serous discharge for some years, one as long as twelve years. Malignancy has not developed.

In the diagnosis of cystic disease of the breast it is important to distinguish the adenomatous type from carcinoma. If one examines sections of the breast under low magnification benign lesions always show a definite lobulation. Under high magnification these adenomatous areas appear malignant. Adenocystic disease is neither a cancer nor a precancerous lesion.

TREATMENT OF CARCINOMA OF THE BREAST*

MAX W. ALBERTS, M.D., F.A.C.S.

Saint Paul, Minnesota

CARCINOMA of the breast because of its location and, as a rule, its early discovery, should be one of the most satisfactory malignant conditions that the surgeon is called upon to treat. But confusion has arisen in the minds of medical men as to the advice to be given a patient after cancer of the breast has been diagnosed because of the great variety of opinions regarding this subject which have appeared during the past few years. Treatment of carcinoma of the breast as elsewhere in the body predicates if possible the removal or destruction of all the cancer cells.

As in the treatment of any disease, the most important point is of course the diagnosis. All physicians are more or less familiar with the cardinal signs of malignancy, and after such a condition has been diagnosed the physician must determine the best method of attack, the one which will give the greatest promise of cure to the patient. Three methods are at our disposal when we plan such an attack: radical surgery, the use of deep x-ray therapy, and radium. The first question in the surgeon's mind is, can the lesion be treated surgically or is it obviously inoperable due to marked extension of the growth. Marked extension makes operation impractical because there is no doubt that it, in an inoper-

able situation, causes much greater harm than good.

Some years ago, Handley laid down a group of contra-indications for the operation of malignancy of the breast, and these contra-indications hold true to a great extent at the present time. Handley's contra-indications were: (1) if the primary growth has become attached to the bony thorax; (2) in the presence of subcutaneous nodules or skin infiltration situated more than two inches from the primary growth known as cancer en-cuirasse; (3) if there is a fixed growth in the axilla adherent to the thoracic wall; (4) if there is a marked edema of the arm; (5) if the supraclavicular glands are enlarged and fixed; (6) if there is evidence of visceral or bone metastases; (7) in the presence of some incurable constitutional disease, such as diabetes or tuberculosis, which is likely to be fatal in a few years; and (8) in the acute fulminating type of carcinoma.

Most of these contra-indications to operation can of course be recognized clinically and through the use of x-rays, and it is often surprising what an x-ray study will show in the presence of what appears to be a perfectly operable lesion. A case in mind demonstrates this.

A woman, aged fifty-two, with a small tumor located in the upper and outer quadrant of the left breast, which she stated had been present for about four

*Read at the annual meeting of the Minnesota State Medical Association, Rochester, Minnesota, April 24, 1940.

months, presented herself for examination. Palpation convinced us that the tumor, which was about the size of a small walnut, was malignant, and as has been our routine practice before operation is advised, a roentgenogram of the chest, and this revealed no evidence of metastases, so a radical operation was performed two days later. At that time, the growth was found to be a small scirrhous carcinoma with no evidence of glandular involvement in the axilla. Three weeks after the operation, she complained of severe pain in the back, and an x-ray study revealed the dorsal vertebrae to be studded with metastatic lesions.

As a result of this experience, our patients now have a film of the spine as well as a flat plate of the chest prior to operation.

Statistics vary a great deal in regard to the so-called cure of carcinoma of the breast by operative procedure because of certain definite factors. Following Handley's advice, some surgeons do not consider a lesion operable where nodes can be palpated in the axilla, while other surgeons attempt to operate upon these patients more or less routinely. The percentage of operative cure in this group will be somewhat lessened. It has been our policy, despite the fact that nodules can be palpated in the axilla, to advise operative interference, because very often the palpable nodules are not malignant but rather the result of some inflammatory change. It is the grade of malignancy or another as yet undetermined factor, which causes some tumors to metastasize a great deal sooner than others. Each of us has had experience illustrating this fact, and I wish to cite two rather striking cases in point.

The first is that of a woman, who at the present time is seventy-two years of age. I saw her first in 1926 because of a fractured arm. She was in the hospital for the fracture, and the interne in his routine examination discovered a tumor in her right breast. Examination of the tumor, at that time, revealed it to be about 2 centimeters in diameter, hard, and fixed to the skin. She said she had noticed it for about fourteen months. The tumor was obviously carcinoma. However, despite our urging, all forms of treatment were refused. I have had the opportunity to observe this growth up to the present time. It has been growing slowly and is now about the size of a baseball, fixed not only to the skin but to the underlying structures, evidencing, however, no axillary, supraclavicular, lung, or skeletal metastases.

The second case is that of a woman, aged forty-two, who, having two sisters with carcinoma of the breast, was naturally apprehensive and made a point of having her breasts examined at periodic intervals. She reported to us for examination in November, 1939, stat-

ing that she had noticed a small lump on the lateral side of the left breast, which to the best of her knowledge, had been present for about two weeks. The tumor was hard, appearing to be about 2 centimeters in diameter and fixed to the skin—clinically, a malignant tumor. After radiographs of the chest and spine had been found negative, radical interference was advised. We operated two days later, and despite the fact that no glands could be palpated in the axilla, numerous metastatic nodules were found in this location at the time of operation.

History of Operative Procedures

It is interesting at this time to review briefly the methods of handling breast cancers, and the steps leading up to our present radical operation. As near as I can determine, it was the Flemish surgeon Vesalius⁷ who, in 1562, reported two cases of carcinoma of the breast, with operation, although he did not publish just what type of procedure he had used. In the diary of Rev. John Ward, Vicar of Stratford-on-Avon, we find a notation that a Dr. Edwards, in the year 1650, operated upon a woman for a cancerous growth in the breast. Naturally, the entry gave no technical description of the operation. Heister,¹¹ in his book on surgery published in 1753, gives some detail as to the method of treating malignant conditions of the breast, and it is interesting to note that Heister lays some stress on the uselessness of the operation when axillary glands are involved and the growth is fixed to the underlying tissues. However, he does qualify the opinion by stating that not all axillary glands which may be palpated in a case of cancer of the breast are malignant. Heister's method of removing the breast for this condition was to use a large pair of pliers, sometimes called the *Tenaculum of Helvetius*, which completely encircled the breast, raising it upwards to make the operative procedure easier and at the same time, to aid in the control of hemorrhage. It is further interesting to note,⁸ that a number of the foremost surgeons following Heister, such as Gross, Agnew and Sands, were very much discouraged in the handling of malignant breast lesions, and were quite frank about never having cured a case. Agnew, especially, stated that in later years he operated upon this condition solely for the moral effect upon the patient.⁸

It was Volkmann's observations⁶ and reports published in 1875, that really marked the beginning of a scientific operative approach to cancer of the breast. His main contribution was the in-

formation that the fascia covering the pectoralis major should always be removed, since it had been clearly demonstrated that carcinomatous cells often permeate this fascia. Kuester, in 1883, and his assistant Heidenhain in particular, advanced the theory, that not only the fascia should be excised, but also some of the fibres from the pectoralis major muscle.⁶ It is also to Kuester's credit that the first thorough dissection of the axilla was made, although Volkman had suggested this procedure some years before. It was in 1882 when Halsted, as a result of following the lead given him by European surgeons and reported observations of various pathologists, removed the entire pectoralis major muscle (the reason again being obvious), that he discovered the new growth permeating or extending into the muscle itself. It is also interesting to note that Halsted early advocated the desirability of dissecting the supraclavicular fossa, but after a short trial period, he apparently arrived at the conclusion that this procedure was not satisfactory.

Willy Meyer,¹³ in 1894, went a step further by advising the removal of the pectoralis minor muscle, and nineteen years later, Handley advocated the inclusion of the upper portion of the sheath of both recti muscles. All of these steps of course have been logical, and of untold advantage to the patient, as is witnessed by Halsted's report⁶ on his first fifty cases wherein the local metastases or recurrences were decreased to 6 per cent. In previous reported series, the recurrences ran from 55 to even 80 per cent, so it would seem to me that any surgeon, who fails to perform a radical operation, that is, the removal of both pectoral muscles, and as complete a dissection of the axilla as is possible, in addition to the removal of the breast (providing the case falls in the group that is considered clinically operable) is not even giving the patient a "sporting chance" for a fair recovery.

Technic

In performing a radical operation for malignant lesions of the breast, practically all experienced surgeons agree that a large amount of skin surrounding the tumor should be excised. All the newer types of incisions which have been described are a distinct aid to the individual operator. Nevertheless, they are all modifications, practically speaking, of the type of incision de-

scribed by Meyer and Halsted in their original articles. I believe with Harrington, that the surgeon should not always use the same type of incision, when doing this operation, but that he should plan and execute his incision according to the location of the lesion. It is my belief that sharp dissection should be resorted to in doing the entire operation, and as described by Halsted⁶ in his original article, the axilla should be thoroughly dissected before the breast and muscles are removed. The reason is obvious, in that by doing the axilla first, the hazard of spreading any loose cells which may be present is lessened. Despite the opinion of some surgeons, that the cutting and removal of the external respiratory nerve of Bell or the long subscapular nerve is inconsequential, it has always been my policy to carefully preserve these nerves in every case. Hemorrhage, of course, must be carefully controlled. Adequate drainage must be provided, when closure is attempted, but the drains should be removed within forty-eight hours. If there is any difficulty encountered in the closure of the wound, we believe that undue stress of the sutures should be carefully avoided, or rather that the wound be left open, and skin grafting later resorted to. Application of Thiersch grafts has been the most ideal procedure in our hands.

Directly after the patient is returned to her bed, it has always been our policy to extend the arm well above the head, and hold it in such a position for at least forty-eight hours, at which time the nurse should be instructed to begin movement of the extremity. The use of this procedure, we believe, has been of great benefit to the patient in the early improvement of function. In the event of local recurrences our method of treatment is to use the actual cautery, and, as in the original procedure, to burn well around the involved area.

X-ray and Radium

In attempting to evaluate radiation therapy for carcinoma of the breast, one finds that the views of various men with a great deal of experience in this field are quite divergent, and no one technic is universally practiced. It is not within my scope to determine what is the correct dosage, whether or not treatment should be administered through an aluminum filter, or what amount of therapy is really adequate. It is after studying the papers written on this subject by

a goodly number of men interested in this particular line of treatment, and the procedures practiced in various institutions that I base my opinion. It seems to be quite the consensus of opinion, that the use of the x-ray is of considerably more value than radium in its various forms, although Levin¹² believes that radium has a very definite place in the treatment of carcinoma of the breast. Adair¹⁵ has used it somewhat as an adjunct, while Keynes¹⁵ of London is the only person who maintains that the treatment of carcinoma of the breast should be limited to radium. The status of x-ray therapy in the management of carcinoma of the breast, that is, whether it should be used preoperatively or postoperatively or both or whether treatment should be limited to x-ray radiation is an important question and, I believe, a debatable one. Men of experience all agree that the so-called inoperable carcinoma of the breast should be placed immediately in the hands of the roentgenologist.

These cases are, of course, quite desperate in character, and naturally the percentage of cures is small. When carcinoma of the breast is operable, few recommend x-ray therapy alone. Pre-operative x-ray therapy may or may not have been given a fair trial, because physicians generally believe that the time which would elapse before operation, in giving such therapy, would be more harmful than the anticipated gain from radiation. Adair advocates a three-month period between the termination of x-ray therapy and operation. Furthermore, section of the new growth will correct the error in diagnosis which is likely to befall any surgeon, and, in addition to saving the patient the ordeal of a radical mastectomy, may also obviate unnecessary x-ray therapy. In most clinics, however, operation is followed by deep x-ray therapy, on the assumption, of course, that all cancer cells may not have been removed. Neither pre-operative nor post-operative x-ray therapy has been given in any operated cases of breast cancer at the Ancker Hospital in Saint Paul. However, at the present time, it is not possible for us to give the percentage of cures in these cases. In my own private series, however, I have never had a case in which I have advised pre-operative x-ray therapy, and only about 60 per cent have been given x-ray treatments postoperatively. Statistics do vary as to the evaluation given to x-ray therapy before

or after operation but it is probably the consensus of opinion that radiation increases five-year cures from 4 to 11 per cent.

It is pertinent, I believe, to say a few words regarding the complications which may arise during and following x-ray treatments. The most immediate effect is nausea and vomiting which occur during the interim between treatments. We have found that the administering of Vitamin B for about a week before the treatments are given and a continuation of this medication during the treatment alleviates to a great extent the nausea and vomiting which occur in a relatively high percentage of individuals. The second distressing complication is the persistent cough which, it has been thought, is due to a pneumonitis developing as a result of the treatment and usually appears sometime after the treatments have been terminated. In our group of cases, various cough preparations have been given, but we have discovered that the administration of a quarter of a grain of codeine sulphate at stated intervals is perhaps the most efficacious manner of controlling this symptom. Fortunately, this cough will usually disappear in from six to eight weeks.

Lastly, when the individual has been given sterilizing doses of rays, a great percentage will naturally present the various symptoms so common to the menopause. Theelin or some of its related extracts have proven excellent in relieving these distressing symptoms.

Beatson,³ a number of years ago, first suggested that the removal of the ovaries as a treatment of inoperable carcinoma was indicated on the basis that the artificial menopause thus induced would excite evolutionary changes, not only in the normal epithelium of the breast but also in the cancer cells themselves. This method was also studied and advocated by Abbe, Lett, and Boyd. However, this procedure was practically discontinued until Torek¹⁶ reported eight cases of inoperable carcinoma, where oöphorectomy was done on the basis of "being unable at that time to do anything better." The influence of the ovary in the development of cancer of the breast has received intensive study, and the fact appears to be well-established that cancer of the breast is considerably more malignant in the young woman, as is witnessed in Davis'¹⁵ report of no cures in cases of carcinoma of the breast in women under thirty. This is verified by de

Lee, who states that in a series of patients under forty years of age, only 27 per cent are alive and well at the end of five years, while in the group of patients over forty years of age, forty-five per cent are alive and well at the end of the same period of years. It further appears to be unanimously agreed that pregnancy is a serious complication in the patient who has cancer of the breast. In Trout's series of cases, in which pregnancy occurred after operation, 87 per cent developed carcinoma in the remaining breast. Numerous authors, with Pfahler¹⁵ in particular, cite startling statistics to prove that either surgical sterilization or sterilization by the use of the x-ray has produced marked benefit in recurrent or metastatic cancer of the breast. Harrington's belief¹⁰ that 75 per cent of the operable cases have remnants of the disease after radical operation, would suggest routine employment of ovarian sterilization to avoid estrogenic influence on the cancer remnants. It has recently been Carroll's opportunity to have seen and studied a case of metastatic carcinoma, arising from the breast and causing a pathologic fracture in the right femur.⁴ X-ray therapy was resorted to, and the patient was given sterilizing doses immediately following the fracture. It was surprising to note the rapid healing that occurred, and the apparent regression of the lesion, so that the patient after two years is able to get around in a very able manner. It would therefore appear that either pre-operative or postoperative ovarian sterilization is justified, on the basis of preventing further pregnancies, and in avoiding the deleterious stimulative influence of ovarian internal secretion, associated with the menstrual function, and that the use of the x-ray seems to be the method of choice after such a procedure has been decided upon.

Arguments have been advanced pro and con, as to the desirability of doing a biopsy, which is a more or less routine procedure in the hands of many men, the anti's taking the position that in the removal of a tumor for micro-examination, there is great danger of dissemination of some of the cancer cells. This group are also strong advocates of the theory that breast tumors should not be repeatedly examined, and that the utmost gentleness must be employed in palpating these lesions for the same reason. While we have no direct proof as to the damage palpation may cause, it has always nevertheless been hard for

me to believe that one may disseminate malignant cells in such a manner; and I am just as firmly convinced, that when a surgeon removes a growth for microscopic examination, he should be prepared to immediately proceed with a radical operation, should the tumor be found malignant. The reason for this is of course that if part of the malignant process be accidentally spread by the biopsy, the removal of the entire breast within a few minutes will remove these cells. Fortunately for the patient, I believe a biopsy is rarely necessary. In other words, the benignity or malignancy of breast tumors may be determined in a high percentage of instances by clinical examination alone.

Conclusion

The most important consideration in the treatment of carcinoma of the breast is the early diagnosis. Radiographs of the chest and spine should always be taken before any surgical procedure is attempted. While operative removal is contra-indicated in certain advanced lesions, this is by far the most valuable means we have for curing carcinoma of the breast. Bearing in mind that cosmetic considerations have no place in the treatment of cancer, wide excision should be practiced in every case. The value of pre-operative x-ray therapy is still more or less indicated, but there is definite evidence that postoperative x-ray therapy has a definite place in the treatment of this disease. Lastly, sterilization of the individual has undoubtedly proven sufficiently beneficial to warrant its performance in certain cases.

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PRIMARY CARCINOMA OF THE BRONCHUS*

HERMAN J. MOERSCH, M.D.

Rochester, Minnesota

PRIMARY carcinoma of the bronchus has come to assume a place of increasing importance among pulmonary diseases and it is estimated at present that primary carcinoma of the bronchus constitutes approximately 10 per cent of all carcinomas that occur in the body. Its importance becomes more apparent when it is realized that out of approximately 150,000 people who die yearly in this country as a result of carcinoma, 15,000 die as a result of carcinoma of the bronchus.

Primary carcinoma of the bronchus is no respecter of age, and may occur at any period of life. As a rule, however, it is most likely to appear after middle age. It is more common among men than women; the proportion of men to women is approximately 3:1. One of the greatest obstacles in its early diagnosis is the fact that its onset is often insidious and its symptoms may closely resemble those produced by other forms of pulmonary disease.

The symptoms produced by primary carcinoma of the bronchus depend mainly on the situation of the tumor and the degree of bronchial obstruction it produces. When the tumor first develops in the lumen of the bronchus, it is usually so small that it produces no symptoms of obstruction. It does, however, cause irritation of the bronchial mucous membrane which manifests itself in a dry, nonproductive cough. This is usually the first, and is by far the most common, symptom of the disease. As the tumor increases in size, it interferes with normal drainage of the bronchial tree distal to the point of obstruction, and the normal secretions tend to accumulate in this portion of the lung. With time, the retained secre-

tion becomes infected, and as a consequence the sputum, which was at first mucoid, soon becomes purulent. Depending on the degree of obstruction and the virulence of the infecting organism, bronchitis, bronchiectasis, pulmonary abscess or gangrene of the lung may develop distal to the point of obstruction and may give rise to symptoms and findings that may obscure those of the primary lesion itself. The tumor, as it increases in size, undergoes ulceration and trauma, which give rise to bleeding and the appearance of blood in the sputum. The quantity of blood may vary from a small amount which produces blood-streaked sputum up to and including a massive pulmonary hemorrhage.

Further increase in size of the tumor brings about interference with air entering and leaving the lung distal to the point of obstruction, and as a result atelectasis soon develops. As a consequence of this development, the patient may have dyspnea, wheeze and a sense of discomfort over the thorax which is often out of proportion to the degree of involvement of the lung.

With the development of bronchial obstruction and interference with drainage of bronchial secretions, episodes of chills and fever may appear. Such episodes will occur in approximately 53 per cent of cases of primary carcinoma of the bronchus. During these episodes of chills and fever, there is usually an area of increased dullness over the portion of the involved lung, and the condition frequently is diagnosed erroneously as bronchopneumonia. This impression may be further substantiated by the fact that, after from three to five days the patient may suddenly expel the retained secretion with almost prompt subsidence of chills, fever and, frequently, cough. As a consequence, many patients are permitted to go on for variable lengths of time, and only when

*From the Division of Medicine, The Mayo Clinic, Rochester, Minnesota. Read in the symposium on diagnosis and treatment of chest tumors at the meeting of the Minnesota State Medical Association, Rochester, Minnesota, April 22, 1940.

there is a recurrence of such an episode is the true nature of the underlying pathologic process determined.

Pain usually is not an early manifestation of primary carcinoma of the bronchus. When present, it indicates either that secondary inflammatory reaction has taken place in the pleural cavity, or that the malignant process has extended to the thoracic cage. Pleural effusion, which occurs in approximately 10 per cent of cases of primary carcinoma of the bronchus, is likewise a bad prognostic sign and generally indicates an extension of the malignant process to the pleura. In a high percentage of cases of primary carcinoma of the bronchus loss of weight is noticeable, but this is not necessarily of prognostic value. On the other hand, hoarseness, which is noted less frequently, is invariably an indication of inoperability.

It must be pointed out that absence of symptoms does not exclude the possibility of primary carcinoma of the bronchus. In a study made some years ago, I found that in 3 per cent of cases there were no symptoms referable to the lung, and the condition was discovered on roentgenographic examination of the thorax during routine examination, or as a result of the development of some peculiar neurologic lesion for which the neurologist referred the patient for special examination to rule out the possibility of bronchiogenic carcinoma.

Although the symptoms which have been described are more or less characteristic in most cases of bronchiogenic carcinoma, there is one group in which the lesion, because of its peculiar situation, gives rise to an entirely different train of symptoms. In this group the carcinoma originates in the extreme apex of the lung, and Pancoast, who first described it, gave it the name of "superior sulcus tumor." Because of its location in the apex of the lung, this type of tumor tends to spread rapidly and impinge on the neighboring structures; it thus gives rise to characteristic symptoms. The earliest symptom usually is pain around the tip of the shoulder and about the shoulder girdle. Because of lack of pulmonary symptoms, the condition is often thought to be neuritis, and the majority of patients have their tonsils or teeth removed in the hope of obtaining relief of their so-called neuritic pain. The pain tends to spread down the arm to the fingers, and

definite muscular weakness soon follows. As the tumor increases in size, it also impinges on the sympathetic chain and Horner's syndrome soon develops on the homolateral side.

The physical findings in primary carcinoma of the bronchus are dependent on the stage of development of the tumor and on its location. When the tumor first develops, there are practically no physical indications. As it increases in size and produces bronchial obstruction, if the part involved is near the surface of the lung, increased dullness may be found over this area. By far the most valuable and important finding is that of suppression of breath sounds. Whenever this finding is elicited in the course of physical examination, the possibility of primary carcinoma of the bronchus must always be considered, and the patient should have the benefit of bronchoscopic examination.

A careful search should be made for metastasis in every case, because carcinoma of the bronchus tends to metastasize early in the course of its development and to spread widely throughout the body. Metastatic nodes are found in approximately 20 per cent of all cases.

I shall not attempt to consider the roentgenographic findings in carcinoma of the bronchus, as they will be discussed by Dr. Weber. I do wish to point out, however, that in cases in which the clinical history is suggestive of primary carcinoma of the bronchus, or in the presence of bronchostenosis as elicited on physical examination, the possibility of carcinoma of the bronchus cannot be excluded even if the roentgenogram of the thorax does not present evidence of carcinoma. In such cases bronchoscopic examination should always be carried out.

Bronchoscopy has probably done more than any other procedure to awaken interest in the problem of primary carcinoma of the bronchus and is of the utmost importance in its diagnosis. It is of value not only because it permits the obtaining of tissue for microscopic examination, but also because it enables the examining physician to determine the situation and extent of the lesion and to judge its operability. In cases in which the lesion is associated with marked secondary pulmonary suppuration, as a result of obstruction and interference of drainage, the patient's general condition may be such that surgical interference would be inadvisable. By bronchoscopic

means, aspiration of the retained secretions can be carried out and the patient's general condition improved.

As might be anticipated, it is impossible to obtain satisfactory tissue for examination when the lesion is in the peripheral portions of the lung. Also, it is important to point out that in cases in which biopsy does not reveal carcinoma and in which a definite tumor mass is seen through the bronchoscope the diagnosis made from the biopsy cannot be accepted as final. The tissue may have been removed from the edge of the tumor, or from that portion of it which has undergone necrosis and the cellular structure is no longer discernible. So far as bronchoscopic examination itself is concerned, it can and should be carried out with a minimum of discomfort to the patient, and with practically no risk.

The differential diagnosis of primary carcinoma of the bronchus at times may be exceedingly difficult. The lesions that most closely simulate primary carcinoma of the bronchus are dermoid, neurofibroma, and foreign body in the bronchus, broncholith, lymphosarcoma and tuberculosis. The differential diagnosis when the results of bronchoscopic examination are negative is usually dependent on the roentgenographic findings.

Primary carcinoma of the bronchus originates from the bronchial mucous membrane and tends to develop into either a squamous-cell carcinoma or an adenocarcinoma. The diagnosis as to the character of the tumor is of the greatest importance in determining the type of treatment that is most suitable in a given case. In my experience, cases of squamous-cell carcinoma of the bronchus have been slightly more numerous than cases of adenocarcinoma. The majority of the malignant tumors of the bronchus are of an extremely high degree of malignancy.

There is one variety of bronchial tumor which grossly appears distinct from other bronchial carcinomas. This tumor is generally pedunculated and usually does not metastasize. Many pathologists regard such tumors as benign, and designate them as adenomas. Broders, Robertson and their associates, however, regard such tumors as adenocarcinomas of low degree of malignancy. It is my opinion that such tumors should be regarded as potentially, if not actually, malignant, and treated accordingly, for if no treatment is given, they will lead to the patient's death.

The treatment that is to be employed in any given case is dependent on the location, extent and character of the tumor, the presence or absence of metastasis, and the general condition of the patient. In my experience, if the tumor is of the adeno-carcinomatous type, is localized and polypoid in nature, and can be readily reached through the bronchoscope, it is best handled by destruction of the tumor by means of surgical diathermy and insertion of radon needles into the base of the tumor. This procedure can be employed with very little risk to the patient and with excellent postoperative results. All of the patients with this type of lesion whom I have treated by this method are still living and well.

If the tumor is extensive, or in such a position that it cannot be readily reached by bronchoscopic means, and if there is no evidence of metastasis, surgical extirpation should be considered. In carcinoma of the squamous-cell type without metastasis, if the patient's condition is satisfactory, pneumonectomy is the procedure of choice. If, on the other hand, the tumor has metastasized, or is placed so that it cannot be removed readily at operation, and if the patient's condition warrants it, roentgen therapy may be indicated. Although no cures are to be offered from this form of therapy, there is a prospect in approximately every sixth case of prolonging the life of the patient.

Summary and Conclusions

It may be stated, therefore, that primary carcinoma of the bronchus presents an ever increasing problem in the diagnosis and treatment of pulmonary disease. The possibility of its existence should be considered seriously in any case in which the patient gives a history of chronic cough, especially if the cough is associated with expectoration of blood. If progress is to be made in the successful management of this disease, the condition must be diagnosed in an early stage. Bronchoscopic examination should be employed whenever such a lesion is suspected. Satisfactory biopsies can be obtained in approximately 75 per cent of cases by this means. With earlier diagnosis, and with the improvements that have taken place in the fields of thoracic surgery and bronchoscopy, there is an increasing opportunity of affording relief to the unfortunate sufferers from primary carcinoma of the bronchus.

FRACTURE OF THE ELBOW

M. H. TIBBETTS, M.D.
Duluth, Minnesota

BECAUSE of the complexity of the various phases of elbow fractures I should like to confine my remarks to fractures in and about the elbow occurring in childhood and early adolescence. I would like to point out the difficulties of diagnosis, outline different methods of reduction and immobilization, and finally discuss briefly the common complications that one may expect but must attempt to avoid or correct.

The first stumbling block in diagnosis may be the varying number of epiphyseal lines that are seen in the x-ray film at different age periods. These vary from none during the first year to as many as seven during the early 'teens. There is an excellent chart which has been published by Camp and Cilley that is of considerable aid. Another helpful procedure is to take a roentgenogram of the uninjured elbow. The line that may fool us most frequently is the one in the olecranon, which is visible over a relatively short age period.

After the diagnosis is established the question of treatment comes next. This, of course, varies with the type. Let us consider first the supracondylar. Prompt reduction is needed here pre-eminently. The longer the delay the greater the swelling, the more difficult the replacement and the greater the likelihood of complications.

One can more readily appreciate this when he realizes that the lower fragment tears the periosteum from the posterior margin of the shaft, thus opening a wide area of hemorrhage. The lower end of the proximal fragment at the same time slides forward and downward jeopardizing the vessels and nerves in the bend of the elbow.

When one comes to the actual manipulation it is perhaps trite to say that there must be complete anesthesia and relaxation of the injured area. This can be accomplished in the very young with ether. Older children can often be handled with local novocaine.

The first maneuver must be directed toward disimpacting the fragments, using extreme care to prevent any added injury to nerves or vessels

in the cubital space. The fingers are then used to drag the distal fragment downward. When one feels that the ends are clear the thumbs are placed on opposite sides of the anterior surface of the proximal fragment and a rotary pincer action begun. At the same time an assistant acutely flexes the forearm. I feel that this maneuver works better without strong traction on the forearm. The latter tends to clamp the lower fragment against the upper. Now one must make sure that the radial pulsation is palpable and adequate. If it isn't the flexion must be diminished to the point where the pulse can be felt. If the circulation is adequate and the reduction appears complete so that the fragments are apposed and the distal one angles forward about 40° , the arm should be immobilized in this position. This may be done with the Jones sling. I like to add to this as posterior moulded plaster splint to prevent rotation or loss of the carrying angle. Another excellent splint is the one recommended by Eliason.

Dunlop has reported excellent results from traction in bed with counter traction at right angles to the forearm traction. The former is to be applied above the elbow. The points claimed for this procedure are: less additional injury which manipulation may inflict; less danger of ischemic paralysis; and excellent position and function are possible.

If one is called to see a supracondylar type of fracture after repeated manipulations have already been done I feel that open reduction is often the most conservative way to treat it. The tissues should be allowed to rest several days before operating. As a rule internal fixation is not needed.

Fractures of the olecranon are not common in children. When present, open reduction with internal fixation is indicated.

Fractures of the medial epicondyle almost always result in non-union unless internal fixation is carried out. Injuries to the capitellum often result in fractures irreducible by closed methods. Rotation of the fragment is often present. Open reduction should be done and it is often neces-

*From the Duluth Clinic. Read in the Fracture Symposium at the annual meeting of the Minnesota State Medical Association, Rochester, Minnesota, April 23, 1940.

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sary to remove the loose fragment as its blood supply may be gone.

Fractures that involve one or both condyles must be very accurately replaced or growth disturbance almost surely will ensue. If closed manipulation does not accomplish this, open reduction is called for. One should not hesitate to use a pin or nail even if it crosses the epiphyseal line.

We come now to the complications, one of which may be more serious than the bone injury. I refer now to ischemic paralysis. This is explained on a pressure basis but this pressure may occur without any splint being used. The fascial coverings of the flexor muscles of the forearm will not stretch as readily as the soft walled veins collapse. Therefore if elevation of the arm does not allow good circulation, these fascial sheaths must be opened to relieve the internal pressure.

The next complication to be mentioned is nerve injury. This may be immediate or appear later.

Usually unless there is actual tearing the nerve lesion will clear up after a few weeks.

Loss of carrying angle may be due to improper reduction or to epiphyseal growth disturbance on one side. The latter, of course, cannot be an immediate complication; when it is due to the former the reduction must be corrected.

In conclusion:

1. One must be able to differentiate a fracture from epiphyseal lines.
2. Early treatment is essential.
3. If gentle manipulation is not adequate, it may be safer to employ gradual traction and counter traction in bed, according to Dunlop, or resort to open reduction.
4. Certain types of elbow fracture call for open reduction.
5. The complications may be serious and call for prompt and radical intervention in the case of ischemia.

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HEMOPHILIA WITH INTESTINAL OBSTRUCTION

ERLING S. PLATOU, M.D., and RALPH V. PLATOU, M.D.

Minneapolis, Minnesota

THE clinical picture of acute intestinal obstruction occurring in hemophilia is fortunately rare. Because this condition constitutes such a grave emergency it seems worthwhile to record the findings and the method of therapy employed in such a case.

C. B., an eight-year-old male, was admitted to the hospital because of acute abdominal pain. Although there was no family history to suggest hemophilia in any of his antecedents traced carefully as far back as the early American Colonial period, the child's past history was considered characteristic of this condition. The first hemorrhagic manifestation had occurred at about ten days of age, consisting of prolonged and serious bleeding from the prepuce necessitating transfusion. Since that time there had been innumerable episodes of bleeding into the skin, muscles, and joints, and even occasional transient hematuria after apparently trivial accidents. The child had previously been observed and treated by Dr. Cannon Eley of Boston and Dr. Montgomery Blair of Washington. They concurred in the diagnosis of hemophilia. Practically all methods of therapy suggested in the literature during the past ten years had been employed at different periods, all with uniformly unsuccessful results in controlling the bleeding. Studies of the blood calcium and protein levels had always been normal, as had the total platelet

count. Bleeding time had been repeatedly normal or slightly elevated, while the coagulation time had varied from twenty minutes to several hours, and was rarely under thirty minutes.

One week previous to admission to the hospital the child developed an acute upper respiratory infection which was soon followed by rather severe bleeding into the right knee joint, the left elbow, and muscles of the left arm. Four hours prior to admission he complained of abdominal pain, which became progressively more severe and was soon followed by occasional vomiting. The significant physical findings were the typical chronic hemarthrotic joints, together with abdominal pain referred to the right lower quadrant. Tenderness in the region of McBurney's point was present. The leukocyte count was 11,300 per cu. mm. with 83 percent polymorphonuclear cells, and 17 percent lymphocytes. Temperature was 100.2°, pulse 86, respiration 22, clotting time of blood one hour and thirty-three minutes. The tentative diagnoses on admission were acute appendicitis, intestinal obstruction due to hemorrhage into the bowel wall, or possibly, intussusception.

The child was transfused at once. Four hours after this procedure he seemed more rather than less ill but the pain and tenderness had shifted to the mid-portion of the abdomen and had become more colicky in nature. Vomiting occurred again and visible peristalsis could be observed on the abdominal wall just preceding these

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colicky pains. There was a rather indefinite boggy mass just below the umbilicus, and loud borborygmi occurred over the upper abdomen only. No stool or flatus was passed. Radiographs were made of the abdomen (Fig. 1) and were reported as typical of obstruction in the small intestine in the right lower quadrant. There was



Fig. 1.

no increase in the leukocyte count, and because of the undoubted great risk involved in any surgical procedure, especially in the abdomen, it was decided to treat the obstruction symptomatically with nasal suction (Wangensteen¹) and supportive measures. The nasal tube was passed into the duodenum without difficulty, and fluids were administered by vein. Within an hour after the suction had been established, the child had relief of the abdominal pain and passed a quiet night without sedation. During the next day the tube was clamped off at intervals without recurrence of symptoms and after twenty-four hours it was removed. There was no hematemesis or melena and for this reason it was felt that the obstruction might have been due to a

hemorrhage into or near the bowel wall. The indefinite mass which had been palpated just below the umbilicus disappeared rapidly after the suction had been instituted and as the symptoms and signs of the obstruction abated. Four days after the suction had been discontinued there was a moderate hemorrhage from the nostril through which the tube had been passed which was readily controlled by transfusion. Aside from this there was no further bleeding and no further complaint referable to the abdomen.

It is not within the scope of this report to discuss the precautions necessary in hemophilia; suffice it to say that surgery should be avoided whenever this is at all possible, and that transfusion remains the most satisfactory agent to control the hemorrhagic manifestations. The well known fact that remarkable variations of clotting time of the blood occur in these patients when tested at frequent intervals renders even this determination of dubious value in choosing the time for operation. The case reported illustrates well the need for careful consideration of the surgical indications. Some might maintain that this case warranted surgical intervention although a review of the literature reveals that the prognosis in abdominal surgery is especially grave in hemophilia. The subsequent course of events certainly justified the conservative therapy employed and rendered the tentative diagnosis of intestinal obstruction due to a hemorrhage into or near the bowel wall as most tenable of those considered. Intussusception, segmental ileitis, appendicitis, mesenteric adenitis or thrombosis, Meckel's diverticulum and various causes of ileus were ruled out as far as possible. While no attempt is made here to minimize the dangers of delay in intestinal obstruction, the results, in this instance at least, served to emphasize the wisdom of a preliminary period of employment of conservative management when the acute condition is complicated by the presence of hemophilia.

Intestinal obstruction in hemophilia is a very rare condition, no similar instance having been reported in the past twelve years. The obstruction in the case here reported was probably due to the occurrence of hemorrhage into or near the bowel wall and there was a favorable outcome with non-surgical therapy.

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AMYOTROPHIC LATERAL SCLEROSIS WITH PSYCHOSIS (PARANOID TYPE)

CHARLOTTE MELLER, M.D.
Minneapolis, Minnesota

THIS case is reported because of its obvious interest.

In going through the literature it was found that only a few cases of amyotrophic lateral sclerosis with psychosis have been reported recently. The use of new therapeutic agents, especially alpha-tocopherol, should stimulate study in this chronic disease.

This disease is characterized clinically by a lower

motor neuron paralysis of the upper extremities and an upper motor neuron paralysis of the lower extremities. It usually begins with atrophy, weakness and fibrillary tremors in the muscles of the arms, the atrophy being most pronounced and characteristic in the hands. The palmar fascia becomes rather prominent. This together with paralysis of the fingers in

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the position of flexion causes the claw hands. Gradually signs of pyramidal tract involvement appear, giving the typical picture of spastic atrophic extremities with increased reflexes. As the disease progresses, bulbar symptoms appear, speech becomes dysarthric and swallowing difficult. Death is due either to bulbar involvement or to intercurrent infection.

Charcot is credited with having first described this disease in 1865. It then became known as Charcot's disease. Since that time much work has apparently been done but little is known of its etiology or its treatment.

Grinker, in his textbook of neurology, does not consider this a distinct disease entity, but rather classifies it with the muscular atrophies.

The disease usually begins in the third decade, affecting males three times more frequently than females. No mention was found in the American literature of its geographical distribution.

Etiology is unknown. More appears in the older literature concerning etiology. Lead and arteriosclerosis have been said to play a part. There may be a hereditary factor present for Moleen reported cases in three brothers. A congenital predisposition of certain nerve cells to undergo early atrophy has been suggested; in the sense of Gowers, this represents an abiotrophy. In common with modern trends, vitamin deficiency has been suggested.

Pathologically characteristic are the signs of degeneration without signs of inflammation involving the anterior horn cells of the cord and the large Betz cells of the cortex. This degenerative process usually begins in the anterior horn cells of the cord. The Betz cells first involved are those of the paracentral lobule where the leg fibers originate.

The depression which such an incapacitating disease should be expected to cause does not appear in all cases. The most frequently mentioned personality changes are irritability and recent memory loss. I. S. Wechsler and C. Davidson in a report of three cases stated that no pathologic changes were observed in the brain except degeneration of the large Betz cells. Other authors reported the same findings. Some even suggest that the lack of mental change is dependent upon the fact that the small cells of the cortex are not involved in the degenerative process.

In 1925 Von Bogart reviewed the literature and published his account of thirty-one cases. In 1930 Ziegler completely reviewed the literature and published this together with three case reports.

Since that time only a few more cases have been reported in English literature. Apparently no new conclusions have been made concerning the relationship between neuropathology of this disease and the personality changes. No one has found any single personality change which can be considered of any statistical significance.

Results of therapy have been rather discouraging until the recent report of I. S. Wechsler in which he

states that the use of alpha-tocopherol in three cases resulted in startling improvement in two cases.

*Case Report.**—A white man, aged fifty-nine, was admitted to the psychopathic ward from the workhouse where he was serving a sentence for disorderly conduct. He had entered one of the large department stores demanding to see the president of the company. He refused to have anything to do with anyone except the president, because he felt only the president could straighten out his grievance. He had had trouble with that store about three years previously and he had continued to hold a grudge. At that time his conduct had not been considered dangerous. At the present time, however, he threatened bodily harm to the office personnel.

Upon arrival at the hospital he was indignant. He told a long, involved, scrambled, wandering story of the brutal treatment he had received from the hands of the employees of this store. He spoke in a loud vehement manner frequently repeating meaningless details for emphasis. He would frequently wander from the point of the story to bring in some unimportant detail.

He stated that one year ago he had noticed weakness and stiffness in his legs and arms. He noticed in particular that his hands were becoming clumsy, stiff and weak. He very boastfully said that about three months previously, a doctor had told him that he had the same disease as Lou Gehrig.

Physical examination showed claw hands and atrophied muscles, spastic lower extremities, bilaterally positive Babinski and Chaddock signs. Blood serology was negative; spinal fluid, entirely negative.

During his stay in the observation ward, the patient spoke loudly, always demanding to be the center of attention. He was commanding and bossy. His mood was generally euphoric although at times he was easily angered. He would cooperate, only when by so doing he would be getting attention. He was oriented as to time, person and place. His recent memory was fair. He could repeat the cowboy story. He repeated an address after five minutes. He retained his persecutory ideas toward the employees of the store. He never threatened the staff. The patient was diagnosed amyotrophic lateral sclerosis with psychosis.

History of previous personality and family background could not be obtained.

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*Case taken from the Neuropsychiatric Service of Minneapolis General Hospital, J. C. Michael, M.D., Chief of Staff.

HISTORY OF MEDICINE IN MINNESOTA

HISTORY OF MEDICINE IN DAKOTA COUNTY

MENDOTA, the first permanent white settlement in Minnesota, is a small town located at the junction of the Minnesota and Mississippi Rivers, which derives its name from the Indian words meaning "the meeting of the waters." At first it was called St. Peters and its proximity to Fort Snelling, which was occupied the following year just across the Minnesota river in Hennepin County, was partly responsible for its growth. Mendota, although practically deserted today, is still interesting because of its location and the history connected with the old stone home of General Sibley.

The first force of ninety-eight soldiers and twenty boatmen arrived at St. Peters in the fall of 1819 and at the time of their arrival, almost half of the men were suffering from scurvy. This disease continued through the winter in an extremely malignant form. For a time garrison duty was suspended since there were only enough well men to care for the ill and bury the dead. Stories are told of men who went to bed apparently well and were found dead in the morning. General Sibley told of a soldier who, being relieved from his tour of sentinel duty, stretched himself upon the bench of the guard room and four hours later when he was called upon to resume his duty was found to be lifeless.† Colonel Leavenworth, who was the first commander at Fort Snelling (or Fort St. Anthony as it was then called), set out with a party through Indian country searching for antiscorbutics. Spruce was obtained from the St. Croix and Chippewa Rivers and vinegar at Prairie du Chien. Nevertheless, nearly half of the company died. At this time, Major Edward Purcell was the surgeon stationed at the post.

This illness returned again the following winter. It was finally discovered that dishonest contractors, from whom the settlement's supply of salt pork had been ordered, had drawn the brine from the barrels at St. Louis in order to lighten the load and refilled them again with river water just before delivery at the post. This fraud was not uncovered until after two seasons.

No other settlements were made in Dakota County until 1851, when the Mendota treaty was made with the Indians who agreed to give up their land on the west shore of the Mississippi.

At this time the first actual settlers came to the Kaposia Mission, south of Saint Paul. Previous to that date only traders and Indian farmers had frequented the mission which had been kept by Rev. Thomas S. Williamson since 1846. Rev. Williamson had received the degree of Doctor of Medicine from Yale University in 1824, but had given up his medical practice in 1833 when he began to study theology. He practiced as a physician, however, in Minnesota. When settlers began to come to Kaposia he moved to Yellow Medicine, where he continued his services as a missionary.*

In 1821 a Lieutenant Oliver of the army, while on his way up the river with

†See the article entitled "Edward Purcell, the First Physician in Minnesota" which will appear in a later issue of MINNESOTA MEDICINE.

*See the article entitled "The Missionary as Practitioner," and the articles written by Rev. Williamson, MINNESOTA MEDICINE, October, 1940, pp. 723 and 725.

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supplies for the garrison was forced by the ice to spend the winter at the present site of Hastings. From this time until 1851, the place was known as Oliver's Grove or more generally, Olive Grove. Joe Brown, a private soldier of Fort Snelling, was sent from time to time to herd cattle because of the fine grass in the region. In 1850 Alexis Bailey, Sr. established a trading post there and built the first log house. The next year, when it was deemed safe for settlers to come, Dr. Thomas Foster, the first practising physician in the county, built the second log cabin on the shore of Lake Isobel, on a site which he had picked out the year before. About the same time Alexis Bailey sold a one-fourth interest in his property to H. G. Bailey, his son, General H. H. Sibley, and Alexander Faribault. The town plan was laid out in 1853 by John Blakely. In 1854, General W. G. LeDuc bought out Alexander Faribault's interest in the town for \$3,000 and also purchased from H. H. Graham a claim of 160 acres adjoining the falls of the Vermillion, now within the city limits. Each of the original proprietors suggested a name for the town and, by drawing lots, General Sibley's middle name, Hastings, was chosen.

The growth of the settlement, like many others of the period, was extremely rapid. The first ferry across the river was established in 1854 by Wm. Felton. The immigration was such that, at ten cents per person, the day's receipts often amounted to eight or ten dollars.

The next year the first hotel, the New England House, was built. In 1856, General LeDuc took charge of the town site for the company and homes and stores went up rapidly. In January of that year the population was about 700 persons; by the end of the year it numbered 1,918. In 1857 the city of Hastings was incorporated by the territorial legislature and at the election in May, a physician, A. H. Hanchett, M. D., was elected mayor. The same year the county seat was moved from Mendota to Hastings.

Scurvy was prevalent in various settlements. In the reminiscences of the Honorable Thomas C. Hodgson who, when a boy of twelve years, spent the winter of 1854-55 in the company of four men at "Club Creek," now known as North Greenvale. Their purpose was to locate and build homes for each family. About mid-winter one of the men developed the symptoms of hypochondria. By March another began to complain of severe rheumatism and soon after Hodgson developed the same symptoms, but his pride forced him to say nothing about it. In April, two of the men started out for Hastings, and a third followed in a half-demented condition. Hodgson and Kegg, the remaining men, were both very feeble and both thought that they probably had leprosy. Their meat supply was exhausted, their flour supply was very low, and they also started to make their way by slow stages to Hastings. At Lamphrey's, near Waterford post office, they were given lodging, and there they met a small group of settlers going to their little colony. Hodgson returned with them, but was soon in such a state that he could not even walk. Fortunately, however, a stranger who was posing as a government inspector of boundaries stopped at the shanty and found Hodgson almost dead from scurvy. The man admitted that he was a physician, ruined from drink, and that he had been known formerly in Indiana as Dr. Charles Ferry. The disease was diagnosed, and the boy was given a diet of raw potatoes and lightly boiled eggs. He finally recovered although he remained stunted in growth.

1850-1859

Of the physicians who practiced in Dakota County in the fifties, Dr. Thomas Foster had quite a varied career aside from his medical practice. He came to

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Minnesota as private secretary to Governor Ramsey and edited newspapers at Hastings, Saint Paul, Minneapolis, and Duluth. He was a member of the constitutional convention and was also state librarian. Of Dr. A. H. Hanchett, the first mayor of Hastings, little is known. He had an office for a while with Dr. William Thorne. He resigned soon after his election and later went east to live. Doctor Thorne was born in Devonshire, England, in 1820. He came to New York state in 1833. He studied medicine with several physicians, took some preliminary lectures at Buffalo College in 1847, practised for a short while and received his degree of Doctor of Medicine from the Buffalo Medical College in 1850. In 1856 he came to Hastings. He was a charter member of the Dakota County Medical Society and also a member of the State Medical Association and the American Medical Association.

In 1856 the *Dakota Weekly Journal* printed the cards of William Gibson, M. D., and D. S. Cummings, M. D., who specialized, according to his card, in the diseases of women and children, and E. D. Ayres, M. D., physician, surgeon, and oculist. The latter also ran a drug store. In 1856 Dr. Horace Phelps came to Lakeville and Dr. T. C. Potts came to Castle Rock township where he practiced for about seven years. There was also a Dr. E. Hammond who came to Waterford that year but there is no record of his having followed his profession in Dakota County.

The next year J. M. Whipple, M. D., published a card advertising that he gave "particular attention to the diseases of the eye and ophthalmic surgery" and also sold drugs and medicines. Jeremiah E. Finch, M. D., one of the well established and well known physicians of Hastings, arrived in 1858. Dr. Finch received his academic and medical training in the east and practiced for a short time in Illinois and Wisconsin. In 1862 he was appointed surgeon of the Seventh Minnesota Infantry and the next year returned to Hastings. He owned a drug store there, served a long term as president of the school board, and was elected mayor in 1866.

The first dentist, H. O. Mowers, and two more druggists came to Hastings in 1858, and in the following year Dr. Otto Stannis, the first homeopath in the county, arrived. He had received his training in Germany and had practiced both in that country and in the United States.

C. P. Adams also came during this period. He was born in Pennsylvania in 1831, and was of Scotch-English and German descent. He studied in Pennsylvania and Ohio and graduated from Ohio Medical College in 1851. He first began practice in Indiana, but his health being injured by malaria and overwork he came to Hastings. At the age of twenty-five, he had the honor of being elected a member of the territorial legislature, and was appointed chairman of the committee on corporations. In his first years in Hastings he supplemented his earnings from medical practice by running a grocery store and editing the *Hastings Democrat*. During the early days of the Civil War, Dr. Adams was instrumental in securing aid for the families of volunteers in the army. His own military record was a meritorious one. He enlisted as a private soldier in the Dakota County Volunteers and was elected captain of his company. He was promoted the next year to the rank of major in the First Minnesota Regiment of Volunteers and in March, 1865, was made a brigadier general. According to the history of Dakota County written by Neill and Williams he was in every battle from the first battle of Bull Run to that of Gettysburg. He suffered severe wounds and was at one time left for dead on the field. He won renown as an officer and continued in

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service after the close of the war. In 1866 he commanded a corps of cavalry and artillery sent against the Sioux Indians and was successful in his undertaking in spite of heavy snows and extreme cold. In July of that year he returned to Hastings and resumed the practice of medicine.

In 1869 Dr. Adams took an active part in the reorganization of the Minnesota State Medical Society and on its recommendation helped to organize the first medical society in Dakota County. He held many offices in both the state and county organizations. He was a member of the American Medical Association, an honorary member of the California State Medical Society, a member and ex-president of the Rocky Mountain Medical Society. In local politics his sympathies were with the Democratic party. He served as mayor of Hastings and also as a member of the state senate for a four-year term (1878-1882). Among other organizations to which he belonged was the Dakota County Veterans' Association for former Civil War soldiers which was organized in 1878 and of which he was the first president.

1860-1869

Among the physicians who came to Dakota County in the sixties were Francis B. Etheridge and Levi P. Dodge. The former's professional card first appeared in the *Hastings Independent* in May, 1860, wherein he stated that he had had thirty years' experience in his profession. He was a surgeon with the rank of major in the Fifth Regiment of Minnesota Volunteers during the Civil War. He was taken prisoner at Corinth, Mississippi, and returned to resume his practice in Hastings late in May, 1862, his health somewhat impaired by his war experiences. Levi P. Dodge was born in New Hampshire in 1839. He was left an orphan at the age of six months and from the age of eight years he cared for himself. After studying medicine with Dr. S. M. Whipple, he enlisted in the army in New Hampshire and received an appointment on the medical staff which he held until 1863. He entered the medical school at Dartmouth and received his diploma that same year. After practicing in New Hampshire he came to Farmington in 1865.

Jenks S. Sprague, who will be mentioned later, came about this time. Other physicians of this period who practiced in Dakota County were Dr. J. L. Armington, who was a surgeon with the rank of major during the Civil War; J. G. Bemis of Farmington and E. D. Ault, a graduate of McGill University, Canada. The latter's card announced him to be a "physician, surgeon, and obstetrician, late of the New York Hospital." Dr. Ault was also an agent of the Mutual Life Insurance Company of Boston, supplementing his income by a side line, which was not an unusual procedure for physicians during these years. Dr. D. L. Webster, Dr. C. C. Richter, Dr. Nichols, homeopaths, and Dr. J. Davidson, an eclectic physician, practiced in Hastings. Dr. Weems ran a drug store there for a number of years. There were also a number of physicians scattered over the county of whom very little is known and there were of course the "traveling physicians" whose spectacular "cure-all" advertisements and guarantees often covered half sheets of the local papers. In 1867 the *Hastings Gazette* printed a list of those men who, having complied with the laws passed by the state legislature requiring an examination or an exemption certificate, were qualified to practice medicine in the state. As this list included only four names, C. P. Adams, L. P. Dodge, R. L. Weems, and R. F. Goodwin, it was probably an incomplete one.

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The following are listed by Mitchell in his history of Dakota County as the practicing physicians of that district in 1868.

L. P. Dodge, Empire
J. G. Bemis, Empire
Dr. Torgerson, Empire
T. N. Berlin, Empire
Wm. Thorne, Hastings
J. E. Finch, Hastings
C. P. Adams, Hastings

J. S. Weems, Hastings
H. D. L. Webster, Hastings
F. B. Etheridge, Hastings
Wm. Willson, Hastings
Dr. Munson, Pine Bend
Dr. Barton, Pine Bend
C. C. Knight, Rosemount

The first expenditure of county funds for persons requiring medical care was made in 1865 when the poor bills covering the year from March, 1864, through March, 1865, were listed as nearly \$300. This included the salary of Dr. J. E. Finch for his services as county physician, medicines for the poor, and extra expenses for post-mortem examinations. There was, apparently, only one office of county physician in the sixties and the expense list as given above was probably about the same for the following years.

According to the *Hastings Independent*, March 28, 1861, there was an epidemic of diphtheria that year and the disease was referred to as being "of considerable interest in the community at present." Typhoid fever was prevalent and severe in Hastings in the winter of 1865-1866. In August, 1866, several persons on the steamboat "Canada" were stricken with an illness described as "cholera morbus." Two persons were buried at La Crosse and six at Reed's Landing, and Hastings officials, who very probably feared that the disease might be dreaded Asiatic cholera which in previous years had been brought up the river, prudently telegraphed the boat not to stop.[†] There was a considerable amount of bowel disturbance accompanied by fever in the summer of 1868 and the next year whooping cough and measles attacked the children.

The obvious reluctance of the newspapers to mention any illness in the community and the vagueness and indecision with which they did so is explained in the course of an argument between Dr. Adams and a man named Graves. Dr. Adams, at a meeting of the state medical society had read a paper which was later published in the *Northwestern Medical and Surgical Journal*, in which he expressed the opinion that the unhealthy lowlands around Hastings might be largely accountable for the illness in that vicinity. As examples he called attention to the malaria prevalent in 1856 and the unusual amount of typhoid fever in 1858. Those who objected to the opinions held by Dr. Adams and his medical associates argued that there was remarkably little illness in the county, that stagnant water had no connection with disease and, above all, that any mention of unhealthy conditions was unpatriotic to the community since it would scare away prospective settlers. It is also to be noted that neither during these years nor later was it a practice of the newspapers to publish articles on preventive medicine or the improvement of sanitary living conditions.

1870-1879

In 1871 Dr. D. J. Cummings reported a case of leprosy, the first that he had encountered during his practice in Dakota County. It created quite a little excitement in the village of Farmington. The next year there were rumors of smallpox and in February, 1873, a number of cases appeared in the German settlement at Hampton. In 1877 scarlet fever was prevalent in Hastings, Empire and Rosemount, as well as in some of the other towns, and it reappeared the two following

[†]See the account of the appearance of Asiatic Cholera in Ramsey County, MINNESOTA MEDICINE, issue of April, 1939, p. 252. Account of its appearance in Goodhue County will appear in a later issue.

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years. There were a few cases of diphtheria reported in 1878 in Hastings and the next year (August) there were several cases at Castle Rock and also within a four mile area around Farmington. The surrounding sanitary and water conditions were reported as good and isolation and disinfection kept the disease from spreading. The same year an epidemic of diphtheria broke out in July and August in Lakeville where there were twenty-one cases in four families. Six deaths were reported. The total number of deaths from all causes for that year, in Dakota County, numbered 156, and of these eighteen were from diphtheria.

In 1870 the first medical society in the county was organized through the efforts of Drs. L. P. Dodge and D. J. Cummings of Farmington. The first meeting was held in Farmington in December and the physicians present included the two mentioned above, as well as Drs. J. S. Sprague, F. B. Etheridge, J. Dennis Smith, J. C. Fitch, J. E. Finch, R. L. Weems and C. P. Adams of Hastings. These included the majority of the important county practitioners. The name adopted for the organization was the Dakota County Medical Society. A committee of permanent organization composed of Drs. C. P. Adams, D. J. Cummings, and J. E. Finch, nominated the following who became the first officers of the organization:

President—J. S. Sprague
Vice president—F. B. Etheridge
Corresponding Secretary—L. P. Dodge
Treasurer—J. C. Fitch
Board of Censors—J. E. Finch, D. J. Cummings, and F. B. Etheridge.

The president, Dr. Sprague, had been for many years an active member of the State Medical Society of New York. He was president of that organization at the time the bill legalizing dissection in that state was passed and it was mainly through his efforts that the measure was enacted into law.

Committees were appointed to draw up a constitution and by-laws and to arrange the financial organization of the society. The next meeting was scheduled for the following March. According to the constitution adopted at that time membership was open, by a majority vote of the society, to any physician residing within the county who was a graduate of any medical school or a licentiate of any state or county medical society recognized by the American Medical Association. The admission fee was two dollars and at each annual meeting two honorary members over sixty years of age might be elected. The next year it was decided that meetings should be semi-annual (in January and in June) rather than four times a year. Dr. Sprague remained in the office of president of the society until 1874. Other physicians who served in this capacity during the seventies were Dr. Thorne (1874 and 1877), Dr. Finch (1875 and 1876) and Dr. Dodge (1878). In 1875 two new members, Drs. C. P. Fuller and J. R. Marvin, were elected.

The office of county physician remained the same as in the preceding ten years with much the same duties. In 1873 Dr. C. P. Adams was appointed county physician at the salary of \$200 per annum. 1877 Dr. Thorne received \$250 and in 1879 he received \$270 for the same services.

Visiting "physicians" gave series of lectures in the different towns several times a year. For example, in September, 1873, a Dr. Voltz lectured in German on physiology and anatomy. He was followed the next month by a Dr. Anderson who illustrated his lectures with charts and a manikin. The next summer a Dr. O'Leary of Boston gave a number of talks in the Hastings court house which were well attended. His wife gave two lectures to the ladies. Drs. Humphry and

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Stoltz of the Winona Institute came to Hastings occasionally for short periods. Dr. C. A. Miner of Chicago made a regular habit of coming to Hastings every three months and there was a Dr. Wheeler "who for fourteen years traveled with the celebrated Indian doctor." Among the newcomers who remained in Hastings was Dr. R. Freeman who established an electro-thermal bath institute. He advertised widely in the newspapers but there is no indication that he ever attended a medical school. Some years later, after pleading guilty to running a house of ill fame, Dr. Freeman moved to Minneapolis. All degrees of quackery were represented yet such "physicians" must have had a moderate success since they continued their visits.

Drs. F. D. Chapman and G. H. Hawes were both reputable homeopaths who established themselves in Hastings.

Dr. L. M. J. Leonard and Dr. J. D. Brundage were among the regular physicians who settled as newcomers in Hastings. Dr. W. C. Eustis, who was one of the first students at the state university and who studied medicine at the University of Michigan, settled in Farmington. Drs. R. F. Goodwin, Dennis Smith and W. W. Furber each practiced in partnership with Dr. C. P. Adams for a short period. Dr. W. H. Thurmond came to Rosemount in 1879 and remained there several years.

1880-1889

During the first years of the eighties, Dr. P. A. Heitz, a member of the Missouri and the Minnesota State Medical Societies, settled in Hastings as did also Dr. Henry Hahn, formerly of Young America, and Dr. Alfred Adsit who became one of the prominent physicians in the city. Dr. E. W. Hammes located in New Trier where he was very well known for many years. Dr. H. C. Johnson located in Farmington. In 1889 Dr. H. Van Beeck, who served the county as physician and coroner for many years, opened an office in Hastings. Other physicians who practiced for short periods in the county were Drs. A. C. Dockstadter, J. M. Tucker, W. F. Kertson, W. O. Tessier, W. R. Endris, James Gravelli, V. J. Hawkins and C. F. Miller.

In 1882 and 1883 there were a few cases of small pox and several deaths from typhoid fever. The only diseases that assumed epidemic forms, however, were scarlet fever and diphtheria. In the summer of 1881 the former was reported as "raging" in Hastings and the surrounding vicinity. Physicians were reported to have their hands full and authorities were taking steps to prevent its spread. It occurred again in the fall of 1882 in Douglas and Hastings and continued to be prevalent and severe until the spring of the next year. In 1889 there were a number of cases.

Diphtheria occurred in a mild epidemic form in Hastings and Vermillion in 1882 and severe cases were recorded in 1885 in Farmington and Vermillion. The citizens of Vermillion were finally stirred to organizing a local board of health under the charge of Dr. C. P. Adams. This board was to make rules and regulations, in conformance with those of the Minnesota State Board of Health, to prevent the spread of contagious disease. This, apparently, was the first local board of health in the county. Three years previous the state medical society had sent a questionnaire to leading physicians in most of the larger towns of Minnesota in order to make a survey of local boards of health.[†] Dr. L. P. Dodge of Farmington replied that there was no such board in his town, and in answer to

[†]Transactions of the Minnesota State Medical Society for 1882.

a question as to the chief difficulties which prevented the establishment of such a board, he replied that it was "the pure hellishness of a certain class of people that you will find in all communities but particularly in small towns—a class that cannot conceive of a medical man being interested in the well-being of his neighbors to the detriment of his own pocket." He suggested as the solution stringent laws and the means to enforce them. In Hastings also a board of health was organized about his time. Dr. J. M. Tucker filled the office in 1886, Dr. H. Hahn served in 1887, and Dr. J. C. Fitch was elected for the two following years.

By 1880 the population in the county had increased so much that it was impossible for one man to attend all the indigent sick in the county. Consequently there were several county physicians instead of one. One physician was appointed to attend all sick persons in the county jail for the sum of \$100 per annum, another to attend those at the poor farm at Auburn for the same salary, and a third to attend all the county charges within a six mile radius from Hastings for \$150 per annum. These salaries included medicines. Since other physicians presented small bills to the county commissioners from time to time, it may be assumed that those who did not fall into the above districts were cared for locally.

These appointments were generally made by the commissioners on the basis of the bids received. There was an objection to this, as may be seen from the following statement which was presented to the commissioners in January 1887:

"We, the undersigned physicians and surgeons of Hastings and vicinity, believing it to be as unprofessional as it is uncomplimentary to receive employment as the lowest bidder, hereby refuse to tender our services as bidders to the commissioners of Dakota County for the medical and surgical treatment of the paupers, including inmates of the poor house and prisoners in the jail of said county.

"We believe, further, that said paupers and prisoners have as much right to choose their attendant as they have to gratuitous treatment at the county's expense.

"And we believe also that no physician whose name appears below will make exorbitant charges for services rendered the county, while, at the same time, all should be fairly remunerated for such services when faithfully and honestly performed."

This document, which was signed by all the reputable physicians practicing in the county at the time, included the following names: J. C. Fitch, A. M. Adsit, H. Hahn, J. E. Finch, G. H. Hawes, J. M. Tucker, P. A. Heitz, Wm. Thorne, W. C. Eustis, L. P. Dodge, H. C. Johnson, J. P. Caldwell, E. W. Hammes, C. P. Adams, and P. Barton.

A short time after this agreement considerable stir was occasioned among the physicians when it was learned that Dr. Henry Hahn, who had supported the movement, agreed to treat all paupers within a ten mile radius of Hastings including prisoners at the county jail and to supply all medicines for the sum of \$300 per year. Dr. Hahn met the barrage of criticism in a letter which he wrote to the *Hastings Gazette* and by a statement from the county commissioners in both of which he maintained that he did not bid for the position but that it was offered to him and he was not obligated to refuse. The situation was unpleasant, however, and Dr. Hahn left the city at the end of the year.

(To be continued in January issue)

President's Letter

THE PHYSICIAN'S REWARD

MEDICINE of tomorrow will be Preventive Medicine. It is in this field that the greatest progress can be expected. Prevention of disease is the highest attainment and the ultimate goal in medical achievement. To prevent disease is a much greater boon to humanity than curative measures.

Already progress has been made. Diseases and accidents in industry have declined markedly, and time loss has been greatly shortened. The same is true of diseases of childhood. Typhoid fever, smallpox, diphtheria, yellow fever, and malaria are among the diseases that should not exist in any intelligent country, now that we have learned how to control their occurrence. The next step will be control of tuberculosis. The prevention of tuberculosis in cattle has been so spectacular that our State Medical Committee on Tuberculosis is fully convinced that this disease should and can be prevented in the human family. November 7, 1940, may be looked upon in the future as an important date. On that night in Meeker County a movement was started by organized medicine to eliminate all tuberculosis in that county. If successful, and we believe it should be successful, other counties will follow suit, and we anticipate the day when tuberculosis in our state will be as completely controlled as is typhoid or diphtheria.

Many diseases are still beyond the reach of medical science. This is particularly true of those diseases most common in middle and advanced age. The degenerative diseases, such as cancer, hypertension, renal, and cardiac diseases, are increasing in incidence with a steadily growing mortality rate. The treatment of these diseases, unless detected very early, is palliative only. If allowed to become firmly entrenched, eradication is usually impossible.

This brings to the fore a duty as well as an opportunity, which the great body of physicians does not yet fully appreciate; that is, thorough periodic physical examinations. In the University of Minnesota Student Health Service every new student is given a comprehensive medical examination. Those in charge claim that one of its most important functions is in educating the student to have periodic physical examinations. Many larger clinics and many individual physicians stress this matter. But to large numbers of physicians, it is a subject to which too little attention is given, partly perhaps because the physician does not feel qualified to carry out the details required, and partly because he does not realize its importance. A periodic examination, to be of any value, must be thorough and complete. A physician must be observant and painstaking. A mere casual examination is not of much value. To be worthwhile to the individual the examination should be repeated annually and more frequently in case of suspicious findings. Not only should the examination include a full general physical examination, including heart, lungs, blood pressure, blood and Wassermann, but particular attention should be given to the cardio-vascular-renal system, the entire gastro-intestinal tract, and the genito-urinary tract. Many cancers can be discovered by this means sufficiently early to obtain surgical cure. Many individuals with beginning cardiac, renal, or hypertensive troubles, if caught sufficiently early, can be advised how to live so that progress of the disease may be kept minimal and a useful life maintained. Too many catastrophes are occurring every day which might have been avoided had foci of disease been discovered in time and proper measures instituted.

A complete, thorough, physical examination requires much time and intensive effort on the part of the examining physician, and in many cases a meager fee can be expected. But if we are to measure up to our responsibility as physicians, we must realize that this is one of our most important duties to humanity. To a true physician the welfare of his patient is of first importance—his chief reward is the satisfaction of having given the best advice and service possible.

B. S. ADAMS, M.D.

President, Minnesota State Medical Association

EDITORIAL

MINNESOTA MEDICINE

OFFICIAL JOURNAL OF THE MINNESOTA STATE MEDICAL
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BUSINESS MANAGER
J. R. BRUCE

Volume 23 DECEMBER, 1940 Number 12

THE PROFESSION AND THE DRAFT

IN KEEPING with the resolution passed by
the House of Delegates of the American
Medical Association last June in New York, and
in keeping with professional principles, the medi-
cal profession is donating its services in connec-
tion with the draft as its part in the national
defense program. Physicians over the draft age
and not members of the military service or re-
serve have volunteered to serve without pay—
one in each district—to examine those drafted.
Advisory boards consisting of specialists give
their services when requested by the district
examiner. Then the state has five appeal boards,
each consisting of seven lay members and one
physician, to which the registrant can appeal.
These medical services are rendered gratis and

no provision has been made for fees except for
certain laboratory examinations.

Induction into the service takes place at just
one place in the state—Fort Snelling. Here the
so far accepted soldier undergoes another physi-
cal examination at the hands of an induction
board made up of a group of civilian specialists,
who may be called upon to spend several days
a month. The members of this board are com-
pensated at the rate of a major's pay. The intent
is to have this examination so thorough that ex-
periences following World War I will not be
repeated.

It is the purpose of the defense program to
mobilize a sufficient body of men without dis-
rupting civilian life more than necessary. That
considerable disruption will occur, however, is
unavoidable. In the medical profession, for in-
stance, there are some 608 Reserve Officers in
the state, subject to call on only ten days' notice.
This is obviously too short a time for a physician
to arrange for the medical care of his patients
and for disposition of his family and business
affairs.

Then there are the several hundred medical
students, interns and young doctors in the draft
age group. The drafting of medical students
and interns is deferred to enable them to com-
plete their training. It is the purpose of the
military authority to place inducted men accord-
ing to their trade or professional fitness. As the
enlisted personnel increases and the need for
physicians in the service increases, there is no
doubt but what inducted physicians will be given
commissions as first lieutenants whose salaries
are \$2,695 for single men and \$3,152 for married
men.

The chairman of the committee for Minnesota
of the Committee on Medical Preparedness of
the A.M.A. and chairman of the Committee on
Military Affairs of the State Association, Dr.
F. L. Smith of Rochester, reports that 93.4 per
cent of the questionnaires sent to the profession
of the state by the A.M.A. have been filled out
and returned. Those members who have not so
far returned these questionnaires are requested to
do so. Duplicate forms may be obtained from

Mr. R. R. Rosell at the office of the Minnesota State Medical Association, 493 Lowry Medical Arts Building, Saint Paul. The Seventh Corps Area, under the leadership of Dr. R. M. Fouts of Omaha, is the only district that shows a better cooperation by a better percentage return of questionnaires.

Reserve officers are inquiring as to the likelihood of their being called into service. Dr. Smith states that medical officers of company grade are likely to be called first, before those of field grade. A questionnaire was sent out by the First Military Area shortly after the A.M.A. questionnaire was mailed, in which the question was asked, "How much time is needed for closing up local affairs before going into active duty?" Presumably the desires of reserve officers as expressed in this questionnaire will receive consideration.

The preparedness campaign is a stupendous undertaking and is vital, although we are not at war. The unanimity of public opinion as to the need for defense is gratifying. The medical profession is doing its part in connection with the draft.

THE BLOOD BANK

MOST hospitals have either a "blood bank" or its near equivalent; that is, a list of readily available donors of known groupings and negative flocculation tests. A hundred years ago Blundell pointed out that hemorrhage is the most important indication for a blood transfusion.¹ This, we feel, is still the primary need for whole blood, but it must be granted there are many other indications in which whole citrated blood is invaluable. However, the intravenous administration of blood plasma is recognized as a rational procedure in the treatment of secondary shock resulting from the loss of blood plasma with consequent hemoconcentration. In our mechanized life where war, automobile and industrial accidents occur, and also where burns, operations and states of hypoproteinemia are met with daily, the use of blood plasma is proving of real value.

The blood plasma may be obtained from the citrated bloods in the "blood bank" by siphoning off the supernatant fluid from the cells which have been deposited at the bottom of the container after several days' storage. If fresh blood

plasma is preferred, blood is withdrawn from a donor, the cells are separated from the plasma by centrifuging, and in turn the supernatant plasma is siphoned off. The blood plasma from various donors can be pooled irrespective of the donors' groupings. In turn the individual or the pooled plasmas can be administered subcutaneously or intravenously, irrespective of the recipient's blood grouping. In an extreme emergency this eliminates the necessity of knowing a prospective recipient's blood grouping if a plasma transfusion is needed in a great hurry. Liquid blood plasma can be stored at room temperatures for indefinite periods, the addition of 1:10,000 aqueous solution of merthiolate (sodium ethylmercurithiosalicylate) acting as a bacteriostatic agent. For increased convenience of storage or transportation the citrated blood plasma may be dried to a powder and kept in a sterile container.² For use the powdered plasma is dissolved in sterile distilled water. Investigations now in progress will eventually lead to the development of a mixture of materials already known which may provide us with a synthetic dried plasma or its equivalent. As experimental and clinical data continue to be presented to the profession, we shall become convinced of its value in specifically indicated cases. It would be a considerable contribution to medical science if quantities of blood were given voluntarily to provide material to carry on this work.

JOHN S. LUNDY, M.D. and
THOMAS H. SHELDON, M.D., M.S. (Anes).

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A CLINICAL COMMENT ON THE USE OF BARBITURATES

SOME clinicians are fully aware of the over-enthusiastic use of metals in syphilis. The syphilis "is cured" but the patient may have a nice hard liver or a full blown arteriosclerosis. Nothing very definite has been established on the end-results with the use of the barbiturates. The commonest associated clinical lesion in an epileptic colony was biliary tract disease.⁴ This was blamed on the prolonged use of phenobarbital. Acute poisoning has occurred with clinical dosage in cases of idiosyncrasy. Untoward action has

been noted in patients with cardiorenal involvement.⁵ The psychiatrists are growing wary of the barbiturates.⁶ State laws have been passed to inhibit indiscriminate use of the barbiturates, mainly to avoid homicidal intent.^{1,2,3}

Aside from these dramatic possibilities, there still is a phase of barbiturate usage which deserves comment. The barbiturates have their place as a hypnotic or sedative or analgesic in emergencies in fairly healthy patients. Never have there been drugs which make sleep so easy. But their continued use for this purpose is a questionable procedure. Such use has often fogged the issue in bedside consultations. Increased nervous irritability has been observed. A sort of delayed reversible action is sometimes established. All of which prolongs hospital stay and demands reeducation of sleeping habits. In the average situation why not go back to our old friends, hydrotherapy and psychotherapy to bring about sleep? But that is work. Work for the doctor; work for the nurse. There is the rub. Sleep made easy for all concerned seems like an ideal arrangement. These drugs have made the clinician "soft"; the nurses lazy. When it comes to the problem of sleep for a patient, the old gag about the WPA worker has "nothing on us."

—H. L. ULRICH

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FOR COUNTRY

FEAR, though unwarranted, that a change in the attitude of our government towards warring Europe would follow a change of administration at Washington, doubtless accounted in part for the outcome of the recent election. The acceptance of the will of the people as expressed in the post-election radio address of the defeated Republican candidate was a fine example of good sportsmanship. The sentiments expressed could well be adopted by the medical profession.

DECEMBER, 1940

The medical profession should and will join the government to present a united front to foreign nations. As to domestic affairs, however, we shall continue to fight for what seems right for our country and our profession, as we see the right. We shall fight for the preservation of the American system of medical practice as expressed in the Platform of the American Medical Association. We may well add to our objective the support of the American system of private enterprise in all lines of activity.

It is with some satisfaction that we note that the government's suit against the American Medical Association is postponed indefinitely. We should think the government had more important things to do. It may be, too, that the enormous sums being appropriated for national defense will indefinitely postpone the consideration of governmental expenditures of Wagnerian proportions for medical activities.

There is no reason, however, to expect that there will be a total let down in the activities of those Utopia-minded citizens for whom state medicine is the final and only answer. The recent attempt on the part of the U. S. Public Health Service to utilize the draft for a public health measure is an indication of how the national emergency may be used in the future for a smoke screen in advocating pet measures. It behooves the profession as individuals and in groups to be on the alert to bring into the open and oppose extreme socialistic trends in government. This is not inconsistent with wholehearted support of the government in international affairs.

MORE OR LESS OF A QUACK

EACH month reports from the State Board of Medical Examiners concerning investigations, arrests and convictions of persons who have attempted to practice medicine without a license are published in MINNESOTA MEDICINE.

The number of convictions among these cases is extremely high. That means that the State Board and its attorney are doing their work with great care and efficiency. It also means that they have coöperation of a high order from law-enforcement agencies and courts of Minnesota.

It is rare, however, for a judge of the district court to issue the kind of rebuke administered

by Judge Gustavus Loevinger of Saint Paul in the case against a Saint Paul chiropractor, Edward Ferdinand Jacobson, who pleaded guilty to the charge of practicing medicine without a license in Judge Loevinger's court last month.

The complete text of Judge Loevinger's remarks and of the entire Jacobson case appear on page 877 of this issue. They should be read by every physician. It is unfortunate that they could not have been heard in person also by every holder of a license to practice healing who is tempted from time to time to overstep his own qualifications and the field in which his license permits him to practice.

The effects of the rebuke by the Court upon the man who was sentenced in this case was undoubtedly considerable and it probably extended to his friends and even to associates who were not in court to hear Judge Loevinger pass sentence.

Physicians who read it in full will be especially grateful to Judge Loevinger for his understanding of medical ethics and requirements and for the humanitarian feeling displayed in his remarks.

"It is unfortunate," the Judge said to the chiropractor in this case, "that when some people are in physical trouble, when they are ill or have any other physical difficulty, instead of going to some person who is qualified to treat them, they are likely to go to some person who is more or less of a quack in that particular line. I am not reflecting on your ability as a chiropractor, but on any other line you are just a quack. You have no authority to practice medicine and anyone who pays you money, therefore, pays it to you under false pretenses."

This is a forceful statement of the case against the practice of medicine by unlicensed and unqualified practitioners of any kind. Coming from a jurist of Judge Loevinger's standing it is likely to have a very wholesome effect on the shady fringe and also upon all who do not draw the line carefully, dividing their field from the legitimate practice of medicine.

It is to be hoped that it will also open the eyes of a few patients to the limitations of some fields and some practitioners who are licensed under the law to practice healing in Minnesota.

CHRISTMAS SEALS

A CALL for the enlistment of all of our people in the crusade against tuberculosis is made by Dr. Nathan B. Van Etten, president of the American Medical Association, in a statement issued in connection with the thirty-fourth annual sale of Christmas Seals.

Dr. Van Etten's statement follows:

"We have come to a time when every health agency must be mobilized for national defense. Defense against disease is quite as important as defense against a military enemy. Education has played a most important part in the defense of our people against the invasion of tuberculosis. We must not only consolidate our gains, but we must push forward with objective planning. The enlistment of all of our people in the crusade against tuberculosis through subscription to the Christmas Seal Sale is more important than ever before—and all of us should do our best to promote a continuous campaign."

COST OF TUBERCULOSIS

Tuberculosis, during and after the World War, has cost approximately \$960,000,000 to date in compensation, vocational training, insurance and hospitalization. The moist rôle, which was the criterion of fitness for the World War, is shown by experience, much of which has accumulated since that time, to be much less reliable than radiography in situations analogous to the examination of recruits. A huge amount of compensation has been paid out to men manifestly tuberculous at the time they were sent to camp who should have been rejected by the local draft boards, but were not.

A normal chest roentgenogram should be the criterion of acceptance in a future mobilization, including the draft for training, and it should be made and reported before the recruit has spent a night away from his own roof to obviate a repetition of the claims for aggravation of pre-existing tuberculosis which occurred during and after the World War.—RAMSAY SPILLMAN, M.D., Jour. A.M.A., Oct. 19, 1940.

REPRINTS REQUESTED

Notice has been received from the Surgeon General that the Army Medical Library will gratefully receive reprints for filing under the author's name. Thus the bibliography of any writer will be readily available and the reprints will provide an additional source of material for loaning. MINNESOTA MEDICINE will automatically send reprints of articles ordered to the Army Medical Library at Washington.

MEDICAL ECONOMICS

Edited by the Committee on Medical Economics
of the

Minnesota State Medical Association

W. F. Braasch, M.D., Chairman

IS THERE A DICTATORSHIP IN THE AMERICAN MEDICAL ASSOCIATION?

An article recently published in *The Public Opinion Quarterly* entitled "Organized Medicine Enforces its 'Party Line,'" by Oliver Garceau is typical of many recent articles which contain biased and misinformed criticism of the American Medical Association by the layman advocate of reform in medical practice. This article is largely devoted to a critical discussion of the attitude of medical organizations toward reform in medical practice and the methods employed by the officers of the American Medical Association to influence the opinions of its membership.

Lack of Culture Charged

The author introduces his diatribe by accusing the physician of a lack of culture and intellectual background, and states that he has no interests other than medical. To those of us who know of the many members of our profession who have shown an active interest in various arts and sciences the accusation seems ridiculous. The physician's love of music is attested by the existence of several excellent orchestras which are composed entirely of physicians, as well as many other orchestras in which they form a large portion of the personnel. Several exhibits of paintings which have appeared in recent years have been contributed entirely by members of the medical profession. Some of these paintings have received national recognition.

All Arts Among Hobbies

Anyone who has visited the various hobby shows conducted by county and state medical societies would realize the wide variety of interests with which the medical mind has occupied itself. The field of literature has been overwhelmed in recent years with contributions from

the ranks of physicians. It is true that some of these publications are of questionable merit, nevertheless there are a number which have received unusual recognition and several are included in the list of "Best Sellers." In fact, it would seem that the only fields which the physician has not invaded in large numbers are the narrow lanes of economics and sociology, from which the author makes his academic criticism. Although it is true that there are not many physicians who are instructors in these fields, nevertheless there are a number who have given these subjects careful study and are not entirely unfamiliar with the problems involved.

It's a Common Fallacy

The author of this article is guilty of a fallacy common to many reformers who are critical of the policies adopted by the American Medical Association in assuming that the Association is so organized that it can dominate the opinions of its members. He fails to realize that the policies adopted by the American Medical Association are guided by the convictions of the majority of its members. The intelligent-minded liberty loving physician would resent the dictation of any medical oligarchy. In fact, the officers of the American Medical Association have been criticized sometimes for their conservatism in carrying out new policies advocated by branch societies. The answer always has been that they wanted to be sure that it would have a favorable reaction among the rank and file of physicians and among constituent societies before adopting a national policy. If there ever was a truly democratic and representative body it is the House of Delegates of the American Medical Association. The members of this well-informed, intelligent body would vigorously resent the charge that their opinions were being forced into line by the officers of the American Medical Association.

They Needed No Urging

It hardly seems possible that anyone, unless his vision were obstructed by cloistered academic walls, would criticize the American Medical Association for its efforts in perfecting the medical defense of the nation. The members of the A.M.A. wish no credit for doing their patriotic duty. Their only desire is to be of every possible aid to national defense, and that their efforts may not be hampered by literary sniping and ill-advised threats from the Department of Justice. The members of the American Medical Association needed no command or urging from their officers to volunteer in defense of the nation. The medical officers of the Army and Navy were the first to receive the coöperation of the members of the A.M.A. when the emergency arose. It might be said that if other fields of national defense were as well equipped and ready for action as that of the medical profession, there would be but little danger of invasion of the western hemisphere.

A large part of this article is devoted to a discussion of the methods employed by organized medicine in enforcing its policies, and the influence exerted by the *Journal* of the American Medical Association. He admits the excellence of the *Journal* and the strength of its editorial policies, but grossly exaggerates the influence it has on the readers. Although the virile editorials usually reflect the thought of the majority of the members of the Association, differences of opinion have arisen from time to time, which have been freely aired in the House of Delegates.

Editors Would Resent

The author apparently believes that the opinions of physicians concerning the economic phases of medicine can be held in line by the editorial columns of the *Journal* as easily as the recent barrage of articles on reform seems to have influenced a section of the laity. The statement that the various state medical journals merely echo the sentiments expressed in the editorial columns of the *Journal* of the A.M.A. would be vigorously resented by their editors. In singling out the militant editor of the Illinois Medical *Journal* as an example the author makes a grievous error, since the worthy gentleman usually is several laps ahead of the rest of us. It is insinuated that officers of the American Medical Association go around pussyfooting

among the various state societies to discover any evidence of insurrection against the policies of the A.M.A. The author evidently is not aware that no representative of the A.M.A. attends a meeting of a constituent society unless he is invited. There is no field officer of the Association and many of the state societies would resent the suggestions of such an officer if appointed.

Object is Public Welfare

Attention is called in the article to extreme methods which have been employed occasionally by some of the medical societies in dealing with their members who violate the principles of medical ethics. There may be some justice in this criticism. It is open to question whether medical organizations should adopt methods of enforcement commonly employed by trade unions. Average laymen, however, do not realize that the main objective of the principles of ethics adopted by the medical profession is to further the best interests of medical care and the public health. If they also confer any economic advantage, as the author intimates, it is a secondary consideration.

Ignorance concerning the details of organization of the American Medical Association and failure to appreciate the various factors involved in carrying on its activities and in determining its policies is common to most social reformers. If they would take the trouble to make a careful and unbiased investigation of the facts involving the A.M.A. and its activities, as well as a careful study of all of the factors involved in the present methods of medical practice, there are not many who would write the articles they do.

W. F. B.

WHAT ABOUT THE YOUNG DOCTOR?

Draft board examinations are now under way and the machinery virtually complete for final induction of draftees—from a medical standpoint—to the centers for military training.

Preparedness questionnaires have also been filled and mailed to Chicago by the vast majority of Minnesota physicians.

With these essentials to the National Defense plan out of the way, the problems of individual physicians who are expecting to go into service, for a limited period, themselves, demand attention by both army authorities and medical organizations.

In time of actual war, the punch card information on every doctor, now in possession of the American Medical Association and the War Department, will undoubtedly be put to use. On a wartime emergency basis, physicians who are not eligible for active duty will undoubtedly be sent by the government to fill the gaps.

Peacetime Problem

But we are not functioning now on a war emergency basis. Will the War Department and the American Medical Association arrange for substitutes for the young physician who, for example, is a member of the Reserve Corps and will perhaps be called to service soon and upon short notice? Will they protect his lease, his investment in the tools of his trade? Take the case of the young physician who practices alone in a small community. He has built up a promising practice; he has long term obligations for office equipment and, probably, a long term lease for office space. What is to become of this young physician's practice during a period of his peacetime service with the military forces?

Many plans have been proposed to take care of this young physician. Several state and county medical societies have drawn up schemes. A New York plan calls for a substitute who will turn over all fees collected to the county medical society for the physician's account. Other plans call for a substitute who will retain half the net income of the practice, depositing the other half for the absent physician with the county medical society.

Penalty Unfair

Obviously, no matter how careful and ethical the substitute may be, no practice can be turned back intact to a physician.

Some patients will object to the substitute; others will prefer him and, if he refuses to accept them after their own physician returns, they may go elsewhere. In any case, a costly equity in equipment and office space may be lost.

These problems must be discussed fully and some solution discovered—if an unfair penalty is not to be imposed upon many patriotic young physicians who have more than a job to lose when they give their services to Uncle Sam.

PHYSICIANS MUST WATCH

In company with commentators and columnists of all shades of opinion, doctors are wondering what direction the third term will take.

According to most, the direction will be far different from that of the second term, just as the second term was different from the first.

The special interest of physicians lies, of course, in possibilities for expanding the Social Security Act and particularly for early passage of a new national health program.

Current Washington comment is unanimous in a belief that this time the administration is prepared to enter upon a world stage. In the years just ahead the power and influence of the United States is to be directed toward a hemisphere New Deal and domestic reform, according to this opinion, plays very little part in any planning now under way.

"More inside attention is being given to a nod of approval by the Emperor of Japan," says the *United States News*, "or to a statement by America's Ambassador, Joseph Grew, than is being given to broadening Social Security legislation, or for creating health insurance or for injecting more reform taxation into taxation policies at home."

The danger to American forms of medical practice obviously lie not so much by way of pending legislation but in the sweeping regulations that may be made, ostensibly, to speed and strengthen national defense.

Physicians who are doing their utmost to aid the National Defense program must also watch closely to see that an exclusively military program does not almost insensibly become a domestic reform program carrying with it the worst aspects of government medicine for the civilian population.

"WHAT IS YOUR ANSWER?"

[Monthly Editorial Prepared by the Medical Advisory Committee]

The type of medicine and surgery practiced in Minnesota today is as efficient as any carried on any place in our country and yet the men of our society are still menaced by entirely too many malpractice suits. How can this be? Each reader may have his answer to the question.

Can it be that in our endeavor to obtain the perfect result, we are overdoing our treatment, especially in the fracture case, and defeating the endeavor of nature to help us to effect a cure?

Is it that we are depending too much on the results of so-called scientific research and the newer medical drugs and too little on common sense in the treatment of diseased conditions?

Are we jumping at conclusions from laboratory studies before taking into consideration the findings of a careful and pains taking history?

Do we, because of the medical education which we have, hold ourselves aloof from the commonplace and forget that tact and courtesy are of great use in the dealing with any type of psychopathic personality?

These, and many other questions and thoughts have run through the minds of the members of your Medical Advisory Committee as, for the past five years, they have scanned the questionnaires sent in by members of our Society who find themselves in trouble.

We believe that 1941 will be successful in molding the members closer and closer together in harmonious pursuit of the ideal—a lessened number of suits—by a close adherence to common sense, keener judgment and a use of tact and courtesy towards patients and other members of our profession.

Let the study of medical ethics and their promulgation be made a New Year's Resolution. A keener sense of responsibility will be the result.

B. J. B.

NEW WRINKLE

Group insurance is now being written, according to the current issue of *Business Week*, for the trucking company members of a large Chicago motor freight association. The policy covers hospital expense, surgical fees, sickness, and accidents.

This represents a new wrinkle in commercial group insurance. The insurance company agrees to write the insurance at group rates below individual rates for comparable coverage. The employee makes his own decision about buying but if he decides in favor of insurance he gets his own policy and tells his employer to take the premium out of his pay.

Other loosely knit groups of individuals such as drug store chains, the retail hardware association, and the American Institute of Decorators are also arranging for similar group

policies for employees of members, even when the individual member-employer operates only a small business with a limited group of employees.

The development of commercial insurance plans to cover hospital expense and surgical fees has obviously only begun but may reach proportions that will completely eclipse non-profit community experiments in sickness insurance of this type.

MINNESOTA STATE BOARD OF MEDICAL EXAMINERS

Julian F. DuBois, M.D., Secretary

California "Health Lecturer" Pleads Guilty to Fraudulent Advertising in Minneapolis.

Re. State of Minnesota vs. Stanford Kingsley Claunch.

Stanford Kingsley Claunch, fifty-five years of age, who stated he lived "in California," entered a plea of guilty in the Municipal Court of Minneapolis on October 25, 1940, to a complaint charging him with fraudulent advertising. Claunch was sentenced by the Hon. P. W. Guilford to a straight term of ninety days in the Minneapolis Workhouse, which sentence was suspended on the condition that Claunch refrain from any more activities in the State of Minnesota, and upon the further condition that Claunch leave the State within 4 days.

Claunch was arrested on October 23, 1940, at the Andrews Hotel in Minneapolis, following a joint investigation of his activities by the Minnesota State Board of Medical Examiners, the Hennepin County Attorney's office and the Minneapolis City Attorney's office. Claunch had advertised in the Minneapolis papers that he would give four health lectures at the Brunswick Room of the Andrews Hotel on October 14, 15, 16 and 17. During these health lectures he announced that he was formerly "a practicing naturopathic physician," and "first vice president and director of the American Health Foundation, chartered in Washington, D. C., by the United States Congress." Claunch also announced that he was going to conduct two master courses in Minneapolis, the first one entitled "The Physical Life," and the second one called "The Mental Life." The fee for the first course was \$15.00 and \$10.00 for the second course, or the two courses combined for \$20.00. Claunch professed to his audience that he would have no trouble in treating epilepsy, tuberculosis, diabetes and many other ailments. One of the mistakes made by Claunch was to distribute a circular reading as follows

"THE CLAUNCH SYSTEM OF SCIENTIFIC EATING
Based on the Electrical Energy (Life Force), as Well as the Chemicals, in Food
is the Only Plan—

That will actually feed illness right out of your body and positive, dynamic health into it. That will eliminate deposits of mucus, pus, acids, drugs and other poisons and at the same time keep up your strength. That will thoroughly nourish your brain and nerves. That will make your skin as soft as velvet and free it from blemishes. That will return your body to normal weight from either extreme. That will completely reshape your body and restore it to its original beautiful form."

Based on the foregoing statement, a complaint was issued by Mr. Joseph A. Hadley, Assistant City Attorney of Minneapolis, charging Claunch with fraudulent advertising. Claunch was immediately arrested and

MEDICAL ECONOMICS

his bail fixed in the sum of \$200.00, which was not immediately furnished. The following morning Claunch was arraigned in Municipal Court, and despite the fact that he had repeatedly told his audience about his own excellent health, he became very faint in the Court Room and had to lie down. Claunch entered a plea of not guilty and the case was set for trial for October 26. Arrangements were made to have several prominent physicians testify as expert witnesses on behalf of the State in proving the falsity of Claunch's representations. However, Claunch changed his mind about having a trial and entered a plea of guilty.

The Minnesota State Board of Medical Examiners wishes to acknowledge the very splendid cooperation that it received in this case from Mr. Joseph A. Hadley, Assistant City Attorney of Minneapolis, and Captain of Detectives, Clarence E. McClaskey of the Minneapolis Police Department. It should be perfectly obvious that a person who circulates the statements that were made by the defendant in this case, cannot be serving the best interests of the public, and it is encouraging to know that there are public officials who will promptly and effectively act to put a stop to such an imposition upon the public.

Saint Paul Chiropractor Pleads Guilty to Practicing Medicine Without a License

Re. State of Minnesota vs. Edward Ferdinand Jacobson

On November 1, 1940, Edward Ferdinand Jacobson, sixty years of age, entered a plea of guilty in the District Court of Ramsey County, Minnesota, to an information charging him with the crime of practicing medicine without a license. The Honorable Gustavus Loevinger, Judge of the District Court, sentenced Jacobson to pay a fine of \$200.00 or to serve sixty days in the Saint Paul Work-



house. Jacobson paid the fine.

Jacobson was arrested on July 27, 1940, by the Saint Paul Police Department following Jacobson's complaint to the police that a young couple had come to his home and demanded \$300.00 to pay the hospital expense of a 19-year-old Saint Paul divorcee. In the subsequent investigation it was learned that this young lady had gone to Jacobson on July 18, 1940, for what Jacobson described as "delayed menstruation." Jacobson stated that he proceeded to treat her with an electrical device which he inserted in the vagina. The girl subsequently became ill and was taken to a Minneapolis hospital. Upon recovering her health it was reported that the girl again attempted to secure some money from the defendant, ostensibly for the purpose of leaving the city. The defendant stated at the time of his arrest that he had been employed by the Railway Mail Service since 1907, and was receiving \$2,450.00 per year. He stated that he practiced chiropractic in his spare time at 244 Hamm Bldg., Saint Paul, Minnesota. Following his arrest, Jacobson retired from the Railway Mail Service on a pension, and due to the reluctance of the State's chief witness to testify, it was decided to permit the defendant to plead guilty to a charge of practicing medicine without a license. Jacobson was soundly rebuked by the Court for his conduct, the Court stating:

"You have been licensed by the state to practice a particular form of healing. You have not been licensed to practice any other form of healing. When you undertake to perform any other form of healing beyond that which you have been licensed, you are perpetrating a fraud upon your patients as well as violating the law. It is unfortunate that when some people are in physical trouble, when they are ill or have any other physical

difficulty, that instead of going to a person who is qualified to treat them they are likely to go to some person who is more or less of a quack in that particular line. I am not reflecting on your ability as a chiropractor, but on any other line you are just a quack. You have no authority to practice medicine and anyone who pays you any money therefore, pays it to you under false pretense. It is the purpose of the law to discourage that sort of thing so that people with pain and suffering shall not be preyed upon by people who are not qualified to render competent services. Should you attempt to practice any other form of medicine than chiropractic and appear in court again I suspect the court will be considerably less considerate than I think it has been this time."

Saint Paul Woman Sentenced to Two and One-half Year Term for Abortion

Re: State of Minnesota vs. Bertina Stoyke

Following her conviction by a jury in the court of the Honorable James C. Michael, Judge of the District Court of Ramsey County, Mrs. Bertina Stoyke, sixty years of age, was sentenced by the Court to a term of not to exceed two and one-half years in the Women's Reformatory at Shakopee, for the crime of abortion. The defendant was arrested on August 3, 1940, in her home at 723 Fauquier St., Saint Paul, by police following the removal to a Saint Paul hospital of a twenty-year-old girl who was critically ill following a criminal abortion.

Mrs. Stoyke was arraigned in the Municipal Court of Saint Paul on August 10, at which time she waived a preliminary hearing and was held to the District Court for trial. The defendant's trial commenced on October 14 with the jury returning a verdict of guilty on October 16, following which she was immediately sentenced.

Notwithstanding the fact that the defendant had no medical training or license of any kind, the evidence indicated that she had performed other abortions. Her charge in the present case was \$30. The girl finally recovered and testified for the state. According to the girl, a catheter was used to induce the miscarriage.

The case was personally tried for the State of Minnesota by Mr. James F. Lynch, County Attorney of Ramsey County. Splendid cooperation was received in this case, not only from Mr. Lynch and his staff, but from the Saint Paul Police Department under Chief Clinton A. Hackert.

United States Supreme Court Refuses to Review Five-Year Suspension of Lake City Physician's License

Re. In the Matter of the Revocation of the License of Gottfried Schmidt, M.D.

Re. Gottfried Schmidt vs. Minnesota State Board of Medical Examiners. (Supreme Court of the United States.)

On November 12, 1940, the Supreme Court of the United States announced its refusal to review the case in which the Minnesota State Board of Medical Examiners had suspended for five years, the license of Dr. Gottfried Schmidt of Lake City, Minnesota. Dr. Schmidt's license was suspended on December 16, 1938, following a hearing before the Minnesota State Board of Medical Examiners, during which hearing it was charged that Dr. Schmidt was guilty of immoral, dis-

honorable and unprofessional conduct as defined by law. The testimony at the hearing before the Medical Board disclosed that Dr. Schmidt had attempted to diagnose various ailments, including cancer, tumors, ulcers, and many other serious conditions, by the use of a piece of wood pulp paper moistened with the patient's saliva. The moistened paper was placed on the abdomen of either the patient or a woman subject employed by Dr. Schmidt in his office at Lake City. Dr. Schmidt also represented that he had a machine in his office with which he was able to broadcast to absent patients.

Following the suspension of his license, Dr. Schmidt appealed to the District Court of Ramsey County. After a hearing before Judge Carlton F. McNally, the Court affirmed the action of the Medical Board, holding that the Board's action "was neither arbitrary, oppressive nor unreasonable." Dr. Schmidt then appealed to the Supreme Court of Minnesota, which Court, on May 17, 1940, handed down an unanimous opinion written by Justice Royal A. Stone, affirming the District Court of Ramsey County. Thereafter Dr. Schmidt served notice of appeal to the Supreme Court of the United States.

Dr. Schmidt was born in Minnesota in 1871, and is a graduate in Medicine from the University of Minnesota in the Class of 1903. Dr. Schmidt was represented by Ray E. Lane of Chicago, and John C. Zehnder of Saint Paul. The Minnesota State Board of Medical Examiners was represented by Hon. J. A. A. Burnquist, Attorney General; John A. Weeks, Assistant Attorney General, and F. Manley Brist, all of Saint Paul.

A. M. A. REFUTES PICTURE MAGAZINE STORY

In twenty-four states osteopaths legally can not under any circumstances use drugs.

In eight states by far the greatest number of osteopaths can not use drugs but it is possible for candidates possessing certain qualifications to obtain that right.

In twelve states osteopaths may utilize stated drugs to a limited extent.

Only in five states, probably, may osteopaths use drugs without restriction. Obviously, then, from the standpoint of the right to use drugs, which an osteopath must possess if he is "to practice on equal or almost equal footing with doctors of medicine," the article in *Life* (August 19) is, to put it charitably, indulging in gross exaggeration when it states "In 33 States qualified doctors of osteopathy are permitted to practice on equal or almost equal footing with doctors of medicine."—*From Pittsburgh Medical Bulletin*, Sept 7, 1940.

THEY PREFER TO RIDE

The United States Department of Labor is authority for the interesting observation that Americans in the low and middle income brackets spend far more on care of their automobiles than they do on their health.

Here is what the figures show in a study just completed of consumer purchases by families in the Rocky Mountain and West Central states:

"The upkeep of the family car exceeded the amount of annual medical bills at every income level covered, from \$750 a year to \$5,000 and over. The average family of all the groups surveyed spent about two or three times its sickness costs on motoring. West Central families with annual incomes of from \$1,250 to \$1,499 spent \$151 on automobiles and \$51 on medical care."

In Memoriam

Samuel Scott Blacklock

Dr. Samuel Scott Blacklock was born December 22, 1874, at Vergennes, Jackson County, Illinois.

His preliminary education was obtained at Dixon College, Dixon, Illinois. Later he went to Valpariso College in Indiana, where he received the degrees of B.S. and Ph.G. in 1898. From there he went directly to Rush Medical College in Chicago where he received his M.D. in 1901. In 1902 he came to Hibbing, Minnesota, and joined the Rood Hospital staff, where he became Senior Surgeon, and remained there until his untimely death. In 1908 he went to Vienna for further surgical study.

Dr. Blacklock was a member of the American Medical Association, Fellow of the American College of Surgeons, Minnesota Medical Association and local societies. He was of the Presbyterian faith. He was a Mason and a Shriner, a member of the Kiwanis Club, Mesaba Country Club, Algonquin and the Kitchi Gammi Club. He was married November 14, 1931, to Mrs. Walter Wischgar, who survives him.

Dr. Blacklock was widely known for his surgical and medical ability which was always coupled with sound judgment. He was a loyal friend and a generous giver to any good cause. He will be missed by his many friends, patients, and the entire staff of the hospital where he has labored for thirty-eight years.

Thus has passed in memoria Dr. Samuel Scott Blacklock of the Rood Hospital Staff.

D. C. ROOD AND STAFF.

Henry H. Clark

Dr. Henry H. Clark, who practiced medicine in Edgerton, Minnesota, for twenty years, died October 31, 1940, in Eitel Hospital, Minneapolis. He was seventy-six years old, and had retired from the practice of medicine five years ago.

Dr. Clark was born in Pleasant Grove, New Jersey, June 30, 1864.

He was a member of Elks Lodge No. 443 of Decorah, Iowa, and of the Pipestone County Medical Association.

Survivors include four brothers, two sisters and a nephew.

Maximilian Joseph Kern

Dr. M. J. Kern, for thirty-five years a practitioner in Saint Cloud, Minnesota, died at the age of fifty-nine, August 10, 1940, following a stroke suffered the night before.

Dr. Kern was born in Wadena, Minnesota, March 17, 1881. He took his preliminary studies at Saint John's University, Collegeville, and received his medi-

IN MEMORIAM

cal degree from Creighton University, Omaha, in 1904.

Dr. Kern practiced two years at Freeport and for a short time at Albany before locating in Saint Cloud in 1906. He took some postgraduate work in internal medicine in Vienna soon after locating in Saint Cloud, and upon his return in 1908 became associated with Dr. J. B. Dunn and Dr. C. B. Lewis. He maintained his association with Dr. Lewis until 1927 when he founded the Saint Cloud Clinic. He served as chief roentgenologist at the Saint Cloud Hospital the past seven years.

Dr. Kern was married in 1905 to Anna L. Welle of Freeport. Besides his wife he is survived by the following children: Mrs. John P. Broderick, New York City; Mrs. Paul Borlin, Detroit Lakes; Dr. Max Kern, Freeport; Mrs. Donald Daubanton, Henrietta Eugene, Margaret, and Virginia Mae of Saint Cloud.

Dr. Kern had been a staunch Catholic all his life. Having been educated in Catholic schools he educated all his children in church schools and colleges. He was one of the most generous supporters of his parish church and was known for his interest in the welfare of Saint Cloud and its people. He served one four-year term as a member of the Saint Cloud City Council and was coroner for several years before his death. He was a member of the American Roentgenological Society, the Stearns-Benton Medical Society, and the Minnesota State and American Medical Associations.

Walter List

Dr. Walter List, former superintendent of the Minneapolis General Hospital, passed away recently in Cincinnati, where he had been superintendent of the Jewish Hospital for the past ten years.

He was fifty-four years old.

Joseph Nicholson

Dr. Joseph Nicholson, former Brainerd physician who built the Northwestern hospital there, passed away, November 5, at his home in Los Angeles. Dr. Nicholson was a practicing physician in Brainerd for many years before moving to California more than ten years ago.

His wife and three children survive.

Theodore L. Streukens

Dr. Theodore L. Streukens, 26, a graduate student in the University of Minnesota Medical School, died October 31.

His mother, a sister and four brothers, all of Minneapolis, survive.

Dr. Streukens was born in Staples, Minnesota, November 14, 1913.

Clinton C. Tyrrell

Dr. Clinton C. Tyrrell, a resident of Minneapolis forty years, passed away, October 22, at the family home, 2422 Johnson Street N. E.

Sixty-three years old, Dr. Tyrrell was born in Norfolk, Nebraska, November 3, 1876. He was a graduate of Hamline University and also the University of Minnesota Medical School. During the World War, he was a member of the Medical Reserve Corps, and served as lieutenant commander of the U. S. hospital ship, Sally. He retired from his practice of medicine and surgery in 1928.

Dr. Tyrrell was a member emeritus of the Hennepin County Medical Society.

Survivors include his wife; a daughter, Thyrsa; a brother, Dr. A. H. Tyrrell of California; and a sister, Mrs. L. H. Burch of Everett, Washington.

PRESENT STATUS OF INJECTION TREATMENT OF HERNIA

In September, 1936, the Council on Pharmacy and Chemistry published a report on the injection treatment of hernia based on the replies to a questionnaire which had been addressed to a selected list of hospitals throughout the country. After consideration of the replies the Council concluded that, although there are cases in which this treatment is applicable and effective, nevertheless it should be borne in mind that the attempted cure of hernia by the application of the method of adhesive inflammation is not new; that it had failed to establish itself as a routine method for such treatment and was still in an early experimental stage; further, that physicians who practice this method should realize the dangers from an ethical, a legal and a financial point of view. To keep the Council's information up-to-date on this subject, the same questionnaire was again addressed to those hospitals which formerly replied. After due consideration of the second hospital survey and the reports in the recent literature, the Council voted to adopt this report to reaffirm its previous opinion that the injection method of treating hernia may not be recognized for general use and should be employed only by those with special experience and with full cognizance of the dangers involved in the use of such solutions. The Council now concurs in the opinion that the method involves less danger of serious complications than surgery when employed only in selected cases of hernia by those skilled in the injection of suitable standardized solutions of known composition and action. The Council is not, however, willing to recognize any such solutions for New and Nonofficial Remedies until sufficient follow-up experience in their application has been gained to establish the success of the injection method of treatment. Present evidence indicates that better types of solution are to be desired. (J.A.M.A., Aug. 17, 1940, p. 533.)

◆ OF GENERAL INTEREST ◆

Twin daughters were born to Dr. and Mrs. Douglas P. Head, October 28.

* * *

Dr. and Mrs. Jerome A. Hilger of Saint Paul are the parents of a son, Michael, born October 13.

* * *

Dr. and Mrs. Wesley W. Spink of Minneapolis announce the birth of a daughter, Helen Gayden, November 12.

* * *

Dr. Reuben F. Erickson of Minneapolis was elected to the House of Representatives from the Thirty-sixth district, South Half, at the recent election.

* * *

Notice—The University of Minnesota library desires back issues of MINNESOTA MEDICINE, separate or bound. Volume 2, No. 7, is especially desired.

* * *

Dr. Arnold E. Naegeli, Saint Paul, married October 31, 1940, Miss Audrey Elinor Miller at Toronto, Canada.

* * *

Dr. Karl Lind, who has held a National Cancer fellowship at the University of Minnesota, has gone to Washington, D. C., to take a governmental position as pathologist in the National Institute of Health.

* * *

Dr. Rigler also presented a paper at the meeting of the American Roentgen Ray Society, which met in Boston in October. Title of the paper was "Roentgen Kymography in Constrictive Pericarditis."

* * *

Dr. R. E. Fricke of Rochester is the newly elected president of the Rochester Kiwanis Club. Dr. H. E. Essex has been named to the board of directors for a two-year term.

* * *

Dr. W. D. Beadie, superintendent of the Mineral Springs Sanatorium at Cannon Falls for the past twenty years, has resigned his position because of ill health. His resignation will be effective January 1.

* * *

Dr. W. F. Braasch of Rochester was recently made a corresponding member of the Sociedad Venezolana de Urologia, in Venezuela, and of the Sociedad Cubana de Urologia, in Cuba.

* * *

Dr. John D. B. Galloway has opened an office at 1251 Medical Arts Building in Minneapolis. He will limit his practice to orthopedics. Dr. Galloway was a Fellow in the Mayo Foundation from 1936-39.

* * *

Dr. H. J. Kurtin of Blooming Prairie and Miss Isabella Shimota of Lonsdale were married November 16. Dr. Kurtin, who opened his office in Blooming Prairie last summer, practiced two years in Lonsdale before going to Blooming Prairie.

Dr. George S. Bergh announces the opening of offices for the practice of general surgery at 1635 Medical Arts Building, Minneapolis. Dr. Bergh is a clinical instructor at the University of Minnesota Medical School.

* * *

Dr. Robert R. Tracht announces the opening of offices at 404 Lowry Medical Arts Building, Saint Paul. He is specializing in the care of the eye. Dr. Tracht is a clinical instructor in refraction at the University of Minnesota Medical School.

* * *

Dr. John T. Kometani announces the opening of his office for the general practice of medicine at 2124 South King street in Honolulu, Hawaii. Dr. Kometani was an intern in the University of Minnesota Hospitals last year.

* * *

Governor Harold E. Stassen has announced the re-appointment of two physicians to the Minnesota State Board of Medical Examiners. They are Dr. F. H. Magney of Duluth, who will serve until 1946, and Dr. Albert Fritsche of New Ulm, until 1947.

* * *

A recent visitor at the University of Minnesota Hospitals was Dr. O. P. Pedroso of Sao Paulo, Brazil. Dr. Pedroso, who is visiting hospitals and clinics in this country, studying hospital administration, will become superintendent of the Sao Paulo Hospital in Sao Paulo on his return to Brazil.

* * *

Dr. W. W. Yaeger of Marshall has purchased the facilities of the Cowin Hospital, it is announced, and has renamed it the Anna Maria Memorial Hospital in memory of his mother. The hospital has ten beds and four bassinets. Dr. Yaeger will continue to maintain his office above the Sward-Kemp drug store.

* * *

Dr. A. C. Kelly, who has been an assistant to Dr. E. K. Rowles at the Rood Hospital in Coleraine for several months, has gone to Duluth to take over the practice of Dr. Roy Mayne. Dr. Mayne, a reserve officer in the United States Navy, has been called to active duty.

* * *

Dr. William C. Bernstein of Minneapolis, who is doing graduate work in proctology at the University of Minnesota Medical School, will go to California about the twentieth of January to spend six weeks as a clinic guest of Dr. Dudley Smith of San Francisco.

* * *

Dr. Jennings C. Litzenberg presided at the October meeting of the Central Society of Obstetrics and Gynecology held in Indianapolis. Dr. Litzenberg's presidential address was "Continuation Study in Medical Education" based on methods of graduate education at the University.

OF GENERAL INTEREST

Dr. Hymer Friedell, who received his Ph.D. degree in radiology at the University of Minnesota in June, has been studying with Dr. Max Cutler and his associates at the Tumor Clinic in Chicago. He plans to spend the next six months at the Memorial Hospital in New York and then go to San Francisco to be with the radiologist, Robert Spencer Stone.

* * *

Dr. Elmer L. Sevringhaus of Madison, Wisconsin, professor of medicine at the University of Wisconsin Medical School, was convocation speaker at the University of Minnesota, November 28. The subject of his illustrated talk was "Meet Your Endocrine Glands."

* * *

Dr. Leo G. Rigler, professor of radiology at the University of Minnesota Medical School, read a paper at the meeting of the Radiological Society of North America, which met in Cleveland, Ohio, December 2-6. The paper, prepared by himself and Dr. Curtis Nessa of the University of Minnesota was entitled, "Roentgen Findings in Pulmonary Edema."

* * *

Dr. Walter Boothby and Dr. W. Randolph Lovelace, II, of the Mayo Clinic, and Captain Harry Armstrong of the United States Army Medical Corps were awarded the Collier trophy this year for their research work in connection with low atmospheric pressure affects on airplane pilots. The trophy has been presented annually since 1911.

* * *

Dr. Edward M. Baldigo of Red Wing and Miss Marcia Draves of Milwaukee were married, October 19, and are now at home in Red Wing, where Dr. Baldigo recently became associated with Dr. Donald R. Claydon and Dr. L. E. Claydon. Dr. Baldigo is a graduate of the University of Minnesota Medical School.

* * *

Dr. Wallace H. Cole of Saint Paul, director of the Division of Orthopedic Surgery at the University of Minnesota Medical School, will leave for England the latter part of December to replace Dr. Philip Wilson as director of the American Hospital in Britain.

Dr. W. T. Wenner of Saint Cloud announces the association of Dr. J. J. Prendergast, formerly of Saint Paul.

* * *

Dr. Philip S. Hench of Rochester was awarded an honorary doctor of science degree by Washington and Jefferson College in Washington, Pennsylvania, October 26. He participated in the dedication program of the Lazear Memorial Building there.

Last month, Dr. Hench addressed several medical meetings in the East. He spoke before the Delaware Academy of Medicine in Wilmington, November 8; and attended a meeting of the executive committee of the American Rheumatism Association in New York, November 9.

Before returning, he spoke in Champaign, Illinois, at a meeting of the County medical society there.

Dr. Robert Rosenthal of Saint Paul had an interesting pediatrics exhibit at a tea given at the Children's Hospital in Saint Paul for nurses attending the recent state meeting. The exhibit included pictures showing the history of vaccination; pictures portraying the development of lying-in rooms, as well as a miniature lying-in room; a collection showing the development of nursing bottles and other feeding devices.

* * *

The offices of Jolin, Jolin and McKenna in Bovey have been modernized and enlarged. New equipment includes a shock-proof x-ray machine, quartz lamp, basal metabolism equipment and electrocardiograph.

Physicians in the firm include Dr. F. M. Jolin of Coleraine; Dr. M. J. McKenna and Dr. R. V. Jolin of Grand Rapids. It is planned to add another physician to the staff.

* * *

Dr. Cecil J. Watson, professor of medicine and director of the Division of Internal Medicine at the University of Minnesota Medical School, spoke before the Central Society of Clinical Research in Chicago, November 2, on "Variations in Clinical and Chemical Findings in Three Cases of Acute Zinc Porphyrin."

He will speak before the National Gastro-enterological Society in New York City, April 21.

* * *

Dr. W. A. O'Brien of the University of Minnesota Medical School spoke at a special postgraduate course on recent advancements in medicine, sponsored by the Medical Society of Milwaukee County, in Milwaukee, October 29. His subject was "Pathology of the Infant." An unusual feature of this society's meetings is "Fifteen Minutes of Preventive Medicine" which is a part of every program.

* * *

Dr. Joseph B. Gaida, eye, ear, nose and throat specialist, announces the opening of new offices at 207 St. Mary's Building, St. Cloud. Dr. Gaida has been practicing in St. Cloud for more than eight years, being associated with the late Dr. John Gelz and Dr. W. T. Wenner for five years. Since Dr. Gelz' death more than three years ago, he has been associated with Dr. Wenner.

* * *

Dr. Conrad A. Elvehjem, director of the department of biochemistry at the University of Wisconsin, presented the first Minnesota Medical Foundation Lecture at the University of Minnesota Medical School, November 12. Dr. Elvehjem's topic was "The Biochemistry of the Vitamin B Complex." He also spoke on "Vitamins and Nutrition" at a meeting of the Hennepin County Medical Society, November 13.

* * *

As the result of competitive examinations held in July, three Reserve Officers in Minnesota have been appointed as first lieutenants in the Medical Corps of the Regular Army:

Dr. William H. Cleveland of Rochester, Minnesota, a graduate of the Northwestern University Medical School; Dr. John N. Furst of Hallock, Minnesota, and Dr. R. A. Lawn of Minneapolis, graduates of the University of Minnesota Medical School.

OF GENERAL INTEREST

Dr. Wesley W. Spink, assistant professor of medicine at the University of Minnesota Medical School, has received a grant-in-aid from the Committee on Scientific Research of the American Medical Association to support an investigation of antistaphylococcal immunity and the nutritional requirements of staphylococci.

Dr. Spink has also received a grant from Merck and Company in support of a study of ascorbic acid and its relation to the immune mechanism.

* * *

Dr. Henry W. Woltman of Rochester, a member of the committee on research for the prevention and treatment of after-effects for the National Foundation for Infantile Paralysis, attended the first medical meeting to be devoted entirely to the disease in New York, November 7 and 8. Dr. M. S. Henderson of Rochester is also a member of the Foundation's research committee.

* * *

Presiding at the twenty-first annual meeting of the American Student Health Association when it convenes in Ann Arbor, Michigan, December 27 and 28, will be Dr. Ruth E. Boynton of Minneapolis, association president, and director of the University of Minnesota Student Health Service.

Dr. Boynton will give the president's address at the convention, which will have a "Coming of Age" theme. A highlight of the program will be the dedication of the new University of Michigan student health service.

* * *

Words of praise on the University of Minnesota Medical School's Fiftieth Anniversary Volume, "Chemistry and Medicine," appeared in the October 12 issue of *The Lancet* published in London.

The article, in part, follows:

"There could be no more eloquent testimony to the value of chemistry than the volume of papers presented at the fiftieth anniversary of the founding of the Medical School of the University of Minnesota. Under the editorship of Professor Maurice B. Visscher reviews are published in physical chemistry in medicine, investigations in metabolism, aspects of immunity and chemotherapy, and the nervous control of the organism. The writers are men who have earned recognition as researchers, and they present their own work in proper perspective against a background of selected literature."

* * *

Three medical continuation courses were conducted at the University of Minnesota Center for Continuation Study last month.

Twenty-two physicians registered for the course in *General Surgery*, November 4-9, at which Dr. Edward William Alton Ochsner, Professor of surgery at the Tulane University of Louisiana School of Medicine, was the visiting member of the faculty. The registrants were:

Drs. R. J. Wilkowske, Owatonna; Leslie A. Moren, Saint Paul; Arnold Larson, Detroit Lakes; F. Paul Kortsch, Prior Lake; and Harold W. Havel of Jordan, all Minnesotans; John I. Appleby, Bellevue, Ohio; John F. Sparks, Kingston, Ontario Canada; Maurice L. Whalen, Bruce, Wisconsin; H. T. Skovholt, Williston, North Dakota; Paul Reed, Rolla, North Dakota; T. P. Ranney, Aberdeen, South Dakota; Arthur J. Offerman, Omaha, Nebraska; Charles J. Meredith, Valley City, North Dakota; D. S. MacKenzie Jr., Havre, Montana; Everett H. Lindstrom, Helena, Montana; Harvey L. Jorgenson, Marinette, Wisconsin; Elmer N. Hunter, Detroit, Michigan; W. Max Gentry, Gering, Nebraska; Clarence E. Crook, Lincoln, Nebraska; Julius Bloom, Woodville, Wisconsin; M. A. Blackstone, Sioux City, Iowa; and Ellis E. Baker, Scottsbluff, Nebraska.

The Committee on Public Education of the American Psychiatric Association, of which Dr. C. Charles Burlingame is chairman, has organized the country into twelve regional districts, each to have a regional chairman who will have charge of disseminating sound psychiatric information especially suited to each district. An important phase of the committee's work will be to make known the Association's advocacy of better hospital standards for psychopathic patients.

Dr. Ralph C. Hamill, Chicago, is chairman of the district which includes Illinois, Michigan, Wisconsin, Iowa, Nebraska and Minnesota. Dr. Hamill has specialized in psychiatry since 1909, and since 1921 has been with the Public Health Department of the United States and with the Veteran's Bureau.

* * *

Hundreds of his friends from Randall, Minnesota, and the surrounding area honored Dr. Samuel G. Knight and his family at a community gathering, November 9, in celebration of Dr. Knight's thirty years of service to the Randall community.

A large gold key to the village, in whose affairs Dr. Knight has been active, was presented by little Jean Marie Hegg. Dr. Knight has been mayor of Randall, a member of the school board and of the Boy Scout board.

As an expression of the community's appreciation, a purse was also presented to the honored guests. Mrs. Knight was given a bouquet of flowers by the Civic League.

Among the congratulatory telegrams read was one from Dr. Allen Dafoe, a classmate of Dr. Knight.

Attending the event, which was a double celebration inasmuch as Dr. and Mrs. Knight noted their twenty-seventh wedding anniversary November 5, were their three children: Dr. Edwin Knight of Minneapolis, an intern at General Hospital in Minneapolis; Robert, University of Minnesota student; and Mrs. Virgil Miller of Randall.

* * *

Scheduled to speak at meetings of the Medical Guild of St. Luke of the Newman Foundation at the University of Minnesota this year are several prominent physicians.

Lt. Col. Quigley will address the December meeting on the subject, "Medicine and the United States Army"; Dr. Charles E. Rea, January, "Interesting Figures in the History of Surgery"; Dr. Raymond Bieter, February, "Catholic Scientists in America"; Dr. Thomas Kinsella, March, "Chest Surgery"; Dr. William E. Peyton, April, "Brain Tumors and Brain Surgery."

Drs. L. F. Richdort and John F. Pohl spoke at the October meeting on "Poliomyelitis"; and Dr. William A. O'Brien, November, "Medical Ethics."

The guild is made up of approximately 60 medical students, 20 medical technologists, 25 pre-medical students and 40 alumni medical practitioners. Dr. Bieter is faculty advisor.

Gerald Taylor, senior in the Medical School, heads the organization. Members of the board include Austin McCarthy of Watkins, Robert Delmore of Roseau, Laurence Thouin of Hibbing, Thomas Glynn and John Hays of Saint Paul.

OF GENERAL INTEREST

Among medical reserve officers ordered to active duty in the United States Army by commanding general, Seventh Corps Area, up to November 8, are the following Minnesotans:

Major Frederic Stuart Richardson, Minneapolis, The Executive, First Military Area, Minneapolis.
 Captain Henry Irvin Yaffe, Minneapolis, Commanding General, Fort Snelling.
 Captain Walter David Coddon, Saint Paul, Commanding General, Fort Snelling.
 Also the following First Lieutenants: Dr. Philip Rains Beckjord, Willmar; Dr. Lester Sanford Frogner, Grand Marais; Dr. George Waltermann Holt, Wabasha; Dr. Ronald Walter Steube, Saint Paul; Dr. Gunnar Linner, Minneapolis; Dr. Frederick Gunnar Gunlaugson, Mankato, all assigned Commanding General, Fort Snelling.
 Dr. Burton Piper Grimes of Saint Peter, first lieutenant, has been assigned Commanding General at Fort Benning, Georgia. Dr. Grimes, the son of Dr. and Mrs. H. B. Grimes of Madelia, has been a member of the staff at the State Hospital in Saint Peter for the past two and a half years.

Naval medical reserve officers assigned to active duty include:

Dr. Lawrence M. Larson, lieutenant, Minneapolis, to N.R. A.B., Minneapolis.
 Dr. John A. C. Leland, lieutenant, Minneapolis, to N.H. Mare Island, California.
 Dr. N. H. Lufkin, lieutenant, Minneapolis, to 18th Bn., Saint Paul.
 Dr. Roy Malone Mayne, lieutenant commander, Duluth, assigned to the U.S.S. Paducah.
 Dr. Donald McCarthy, lieutenant commander, Minneapolis, assigned to N.R.S. Minneapolis.
 Dr. Frank F. Wildebush, lieutenant, Minneapolis, to Naval Mobile Hospital No. 1.

* * *

Of the 114 members of the freshmen class admitted to the University of Minnesota Medical School this fall, twenty-one are sons or daughters of physicians.

They include:

Donald E. Bergan, son of Dr. Otto Bergan (U. of M. '12), Clinton, Minnesota; Catherine Burns, Albert Lea, daughter of the late Dr. H. D. Burns; Kenneth W. Covey, Bagley, Minnesota, son of Dr. W. C. Covey; Ralph L. Estrem, son of Dr. C. O. Estrem, Fergus Falls (U. of M. '07); Jack D. Ewing, son of Dr. B. F. Ewing, Omaha, Nebraska.

Also John George Freeman, St. Peter, son of Dr. George H. Freeman (U. of M. '05); Alice H. Gamble, daughter of Dr. Joseph W. Gamble (U. of M. '18), Albert Lea, Minnesota; Neill F. Goltz, son of Dr. E. V. Goltz, Saint Paul; Edward D. Henderson, son of Dr. Melvin S. Henderson, Rochester; Douglas Raymond Kusske, son of Dr. Arthur L. Kusske, New Ulm; Robert Elkon Litman, son of Dr. M. H. Litman, Minneapolis.

Also, Martin A. Nordland, son of Dr. Martin Nordland, Minneapolis (U. of M. '13); Robert J. Petters, son of Dr. F. H. Petters with the United States Army at Cristobal, Canal Zone; Norris S. Rothnem, son of Dr. T. P. Rothnem (U. of M. '12), Fargo, North Dakota; David John Sanderson, son of Dr. A. G. Sanderson, Granite Falls; Marvin J. Shapiro, son of Dr. M. J. Shapiro (U. of M. '17); Helene M. Templeton, daughter of Dr. E. W. Templeton, Seattle, Washington; Robert H. Vadheim, son of Dr. A. L. Vadheim (U. of M. '09), Tyler, Minnesota; Robert M. Watson, son of Dr. A. M. Watson, Royalton, Minnesota.

Also John E. Withrow, son of Dr. Morrill E. Withrow, International Falls; Thomas D. Wright, Minneapolis, son of the late Dr. C. B. Wright.

The class is made up of 102 residents of Minnesota, and twelve residents of other states.

Nine of the class are women, four of them daughters of physicians. Seventeen are doctors' sons.

Forty-three had an average of "B" or better in their premedical work, and the whole class had an average of 1.88 honor points per credit hour ("B minus") in college, a fact which should augur well for their success in medical school.

Dr. Harold S. Diehl, dean of the Medical School of the University of Minnesota, has been appointed a member of the sub-committee on Medical Education of the Health and Medical Committee of the National Defense Council.

The general Health and Medical Committee was appointed by President Roosevelt on September 19 to survey and coördinate the medical resources of the country in the interests of national defense. This committee is composed of Dr. Irvin Abell of Louisville, Kentucky; General James C. Magee, Surgeon General of the Army; Rear Admiral Ross T. McIntyre, Surgeon General of the Navy; Dr. Thomas Parran, Surgeon General of the United States Public Health Service; and Dr. Lewis H. Weed, chairman of the Division of Medical Sciences of the National Research Council.

* * *

Dr. Edith L. Potter, instructor and pathologist at the Chicago Lying-In Hospital, University of Chicago, was a visiting member of the faculty for the course in *Obstetrics*, November 11-16.

Registrants for this course were:

From North Dakota: Drs. L. Almklov, Cooperstown; John P. Bartle, Langdon; W. E. Blatherwick, Van Hook; William Campbell, Valley City; William H. Cuthbert, Hillsboro; C. R. DuKart, Richardson; Arnold J. Gumper, Dickinson; Simon W. Hill, Regent; B. J. Hughes, Rolla; G. Wilson Hunter, Fargo; John B. James, Page; P. O. C. Johnson, Watford City; H. A. LeFleur, Lakota; V. H. Moats, McClusky; A. F. Panek, Milton; Albert H. Reiswig, Wahpeton; E. H. Richter, Hunter; Carl I. Rollefson, Crosby; Norman J. Rose, Finley; Samuel I. Rothman, Belcourt; E. J. Schwinghamer, New Rockford; John Simon, Napoleon; Felix F. Vonnegut, Hague; A. J. Welker, Max; Floyd E. Wolfe, Oakes; and C. E. Reynolds, Strasburg.

From Minnesota: Drs. Melvin L. Hovland, Minneapolis; H. C. Otto, Frazee; Benjamin J. Singer, Saint Paul.

From South Dakota: Drs. Julius Mueller, Flandreau; Hugo C. Andre, Vermilion; John Edward Curtis, Lemon; Magin Davidson, Brookings; John H. Davis, Belle Fourche; Louis C. Dick, Spencer; F. Daniels Gillis, Mitchell; David A. Gregory, Milbank; Ernest J. Hofer, Freeman; N. K. Hopkins, Arlington; R. E. Jernstrom, Rapid City; M. W. Larsen, Watertown; C. L. Olson, McIntosh; A. W. Pearson, Sisseton; R. J. Quinn, Burke; K. E. Sherman, Sturgis; H. P. Volin, Lennox; John W. Bushnell, Elk Point; Hazel Lamb, Sioux Falls.

From Wisconsin: Drs. Walter C. Andrews, Frederic; John J. Boersma, Sheboygan; Raymond T. Shima, Turtle Lake.

Other registrants were: Drs. Marjorie R. Bennett, Winnipeg, Manitoba, Canada; M. A. Currie, Regina, Saskatchewan, Canada; Elma M. Howard, Miles City, Montana; Frederick F. Kumm, St. Petersburg, Florida; Draper Long, Mason City, Iowa; Charlotte P. Seiver, Fremont, Nebraska.

Visiting member of the faculty for the course in *Proctology*, November 11 to 16, was Dr. Frank Clark Yeomans, professor of proctology, New York Polyclinic Medical School and Hospital, New York City.

Physicians who attended this course were:

Drs. A. D. Hoidale, Tracy; W. G. Johanson, St. Paul; Melvin E. Lenander, St. Peter; Harvey T. Petraborg, Aitkin, and Charles B. Will, Bertha, Minnesota.

From Iowa: Drs. M. G. Bourne, Algona; Olin A. Elliott, Des Moines; Jay E. Houlahan, Mason City; Clarence E. Lynn, Dubuque; Carroll C. Nelson, Red Oak; and Glen E. Snyder, Grimes.

From Wisconsin: Drs. Philip J. Eisenberg and Leonard J. Schwadé, Milwaukee; A. L. Schemmer, Colby, and Woodruff Smith, Ladysmith.

Others were: Drs. F. H. Lowe and John Paul Ritchey, Missoula, Montana; and Erwin E. Stephens, Eureka, South Dakota.

REPORTS and ANNOUNCEMENTS

MEDICAL BROADCAST FOR DECEMBER

The Minnesota State Medical Association broadcasts weekly at 11:00 o'clock every Saturday morning over Station WCCO, Minneapolis, Station WLB, University of Minnesota, and KDAL, Duluth.

Speaker: William A. O'Brien, M.D., Professor of Preventive Medicine and Public Health, Medical School, University of Minnesota.

The program for the month will be as follows:

December 7—Otitis Media

December 14—Cause of Hearing Loss

December 21—When Deafness Comes

December 28—Modern Scientific Achievements

AMERICAN ACADEMY OF DERMATOLOGY AND SYPHILOLOGY

The Academy meets at the Palmer House, Chicago, December 8, 9, 10 and 11, 1940. Some sixty lectures are scheduled and, in addition, numerous round-table discussions and clinics at the University of Illinois Medical School.

Dr. Harry R. Forester, Milwaukee, is president and Dr. Earl D. Osborne, Buffalo, secretary of the Academy.

CONGRESS OF INDUSTRIAL HEALTH

The third annual Congress of Industrial Health, sponsored by the Council on Industrial Health of the American Medical Association, to be held at the Palmer House in Chicago, January 13 and 14, merits the special attention of industrial surgeons throughout the country at this time, particularly with the speed-up in industry and with added importance to the saving of man-hours.

The two-day program will be devoted to subjects such as hand and eye injury, acute respiratory disease and preventive medicine as applied to industry.

The probable need for the use of the physically handicapped to replace those more able-bodied, who will be inducted into the service, will receive consideration.

Sickness and accident prevention and rapid rehabilitation of those injured are subjects of growing importance in the national economy.

JOHN W. BELL LECTURE

"Manifestations of Tuberculosis in the Silicotic Subject" was the subject of the John W. Bell Tuberculosis Lecture before the Hennepin County Medical Society in the society's rooms, Medical Arts Building, December 2.

The lecture was delivered by Dr. Leroy U. Gardner of Saranac Lake, New York, director of the Trudeau Foundation of the Trudeau Sanatorium and the Saranac Laboratory for the Study of Tuberculosis. For the past twenty years, Dr. Gardner has supervised the

work of the Saranac Laboratory in its study of industrial diseases of the lungs. He is a member of the Council on Industrial Health of the American Medical Association.

The John W. Bell Tuberculosis Lectureship in the Hennepin County Medical Society was established and is maintained by the Hennepin County Tuberculosis Association.

CONTINUATION COURSES

The University of Minnesota announces the winter schedule of continuation hospital and medical courses, as follows:

January 2-4—Problems of Executive Housekeepers (for representatives of hotels, hospitals, and institutions)

January 20-25—Ophthalmology (for ophthalmologists and otolaryngologists)

January 27-February 1—Hospital Administration

February 3-5—Uterine Bleeding (for gynecologists and radiologists)

February 13-15—Medical Social Service

February 20-22—Dietetics (for dietitians)

March 3-5—Internal Medicine

March 6-8—Obstetric and Pediatric Nursing

The sessions will be conducted at the Center for Continuation Study which also provides living accommodations for those who attend the courses at an average rate of \$1.25 a day for room and \$1.50 a day for meals. Tuition varies from \$5 to \$10 for hospital courses and \$15 to \$25 for medical courses. For further information, address Director, Center for Continuation Study, University of Minnesota, Minneapolis, Minnesota.

OPHTHALMOLOGY-OTOLARYNGOLOGY COURSE

A special course for ophthalmologists and otolaryngologists will be conducted at the Center for Continuation Study at the University of Minnesota, January 20-25, 1941.

Guest lecturers will include Dr. Ramon Castroviejo of the Ophthalmic Institute of New York City; Dr. Albert D. Ruedemann of the Cleveland Clinic, Cleveland, Ohio; Dr. Derrick T. Vail, professor of ophthalmology at the University of Cincinnati College of Medicine, Cincinnati, Ohio; Dr. Thomas D. Allen and Dr. Robert Von der Heydt, associate clinical professors of ophthalmology, Rush Medical College, University of Chicago.

Other members of the faculty will be members of the ophthalmology and otolaryngology department of the University of Minnesota Medical School and the Mayo Foundation, and also the anatomy, radiology departments, the division of neuropsychiatry, and of the anesthesiology department.

MINNESOTA PATHOLOGICAL SOCIETY

The Minnesota Pathological Society will be addressed by Dr. H. P. Smith of the Department of Pathology, University of Iowa, Iowa City, December 17. Title of Dr. Smith's talk will be "The Coagulation of Blood

REPORTS AND ANNOUNCEMENTS

with Special Reference to Vitamin K Therapy," according to Dr. E. T. Bell of the University of Minnesota, secretary of the society.

MINNESOTA SOCIETY OF INTERNAL MEDICINE

Dr. Max H. Hoffman of Saint Paul was elected president of the Minnesota Society of Internal Medicine at a meeting in Rochester, November 11. He succeeds Dr. Russell M. Wilder of Rochester.

Named vice president was Dr. Cecil J. Watson of Minneapolis. Dr. Reuben A. Johnson of Minneapolis was re-elected secretary-treasurer.

New members elected were: Dr. J. Allen Wilson of Saint Paul, Dr. Philip Hallock of Minneapolis, and Dr. T. J. Dry of Rochester.

Program chairman for the meeting was Dr. B. T. Horton of Rochester.

Papers were presented by Dr. Thomas Ziskin of Minneapolis; Dr. A. R. MacLean and Dr. E. V. Allen of Rochester; Dr. H. E. Essex of Rochester; Dr. Max H. Hoffman of Saint Paul; Dr. E. L. Tuohy of Duluth. Other papers were by the following Rochester men: Dr. Robert Woods and Dr. A. B. Barnes; Dr. L. E. Prickman and Dr. H. J. Moersch; Dr. E. C. Kendall; Dr. H. F. Helmholtz; Drs. C. R. Maino, B. E. Hall and H. Z. Giffin.

Principal speaker at the banquet was Dr. Irvine McQuarrie of the University of Minnesota, who held a visiting professorship in pediatrics in Peiping, China, early this year. He spoke on his experience in China, and discussed political, military and health problems of occupied North China.

On account of the blizzard, most out-of-town members attending were unable to return to their homes until the 13th.

The next meeting of the society will be held in Minneapolis in the spring.

MEEKER COUNTY TUBERCULOSIS CONTROL DEMONSTRATION

Plans for the Meeker County Tuberculosis Control Demonstration were discussed at a meeting held in Litchfield, November 7, by members of the committee on tuberculosis of the Minnesota State Medical Association and the physicians of Meeker county and adjoining counties. As previously announced, the committee has selected Meeker county for a three to five year demonstration of modern control methods. This was the second meeting held in Litchfield and a third is scheduled for December 5.

Members of the state committee attending were: Drs. B. S. Adams of Hibbing, president of the Minnesota State Medical Association; B. J. Branton of Willmar, president-elect of the Association; J. A. Myers, Minneapolis, professor of medicine, University of Minnesota, chairman of the Tuberculosis Committee of the Minnesota State Medical Association; E. A. Meyerding, Saint Paul, executive secretary of the Minnesota Public Health Association; C. A. Stewart of Minneapolis, one of the councillors of the Medical

Association; S. A. Slater, medical superintendent of Southwestern Sanatorium, Worthington; K. H. Pfuetze, assistant medical director of Mineral Springs Sanatorium, Cannon Falls; C. A. Scofield, Benson, former president of the Minnesota Department of Health; H. A. Burns, superintendent of the Minnesota State Sanatorium, Ah-Gwah-Ching; and Arthur J. G. Henderson of Kiester.

MINNESOTA SOCIETY OF OBSTETRICS AND GYNECOLOGY

The Minnesota Society of Obstetrics and Gynecology will meet Saturday, December 14, at the Kitchi Gammi Club in Duluth. The program for the one-day session will include the following papers:

- "Actinomycosis of the Ovary"—W. A. Coventry, M.D., Duluth.
- "Stilbestrol"—L. M. Randall, M.D., Rochester.
- "Evaluation of Serologic Tests in Pregnancy and During Menstruation"—F. T. Becker, M.D., Duluth.
- "Alar Scapula"—M. H. Tibbets, M.D., Duluth.
- "A Case of Severe Dysmenorrhea and Sterility Effectively Treated With Pranone"—C. J. Ehrenberg, M.D., Minneapolis.
- "Certain Pulmonary Complications in Parturition and Pregnancy"—F. J. Hirschboeck, M.D., Duluth.
- Vitamin "C" Deficiency in Pregnancy—A. L. Dippel, M.D., Minneapolis.
- "Intravenous Use of Ergotrate in the Third State of Labor"—J. R. Manley, M.D., Duluth.

Dr. J. C. Masson of Rochester is president of the society, and Dr. E. C. Hartley of Saint Paul, secretary.

BLUE EARTH VALLEY MEDICAL SOCIETY

Dr. P. W. Demo of Wells is the newly elected president of the Blue Earth Valley Medical Society. He succeeds Dr. V. M. Vaughan of Truman. Other officers are Dr. J. J. Heimark of Fairmont, vice president; Dr. J. L. Mills of Winnebago, secretary-treasurer. Dr. A. W. Sommer of Elmore was elected a trustee.

Dr. W. C. Chambers of Blue Earth was named a delegate to the state medical convention; and Dr. R. C. Hunt of Fairmont, alternate.

New members accepted into the society are Dr. D. G. McMillen of Triumph, Dr. Robert Hunt of Fairmont, and Dr. Ralph Parsons of Monterey.

OLMSTED-HOUSTON-FILLMORE-DODGE COUNTY MEDICAL SOCIETY

Dr. B. E. Hempstead of Rochester was elected president of the Olmsted-Houston-Fillmore-Dodge County Medical Society at the organization's annual meeting in Rochester, November 6. Dr. C. B. McKaig of Pine Island was named vice president, and Dr. M. J. Anderson of Rochester was re-elected secretary and treasurer.

Eleven delegates and alternates were chosen for the annual state convention.

Delegates are Drs. H. R. Baker of Hayfield, H. Paul Johnson of Harmony, J. W. Helland of Spring Grove, C. B. McKaig of Pine Island, and J. E. Crewe, M. C. Piper, N. W. Barker, A. H. Sanford, M. J. Anderson, Waltman W. Walters and L. A. Buie of Rochester.

Alternates are Drs. J. P. Nehring of Preston, G. E. Olson of West Concord, E. A. Olson of Pine Island,

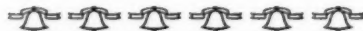
N. E. Anderson of Harmony, W. W. Canfield of Houston, Claude W. Woodruff of Chatfield, and J. D. Camp, J. A. Paulson, J. M. Berkman, G. L. Joyce and H. C. Habein of Rochester.

Besides the business meeting, there was a symposium on first aid at accidents for the casually present physician. Dr. J. S. Lundy discussed "Poisoning; Shock by Electricity; Artificial Respiration." Snake bite treatment was discussed by Dr. J. W. Pender. Other speakers were Dr. E. B. Tuohy, "Control of Bleeding;" Dr. A. W. Adson, "Head Injuries;" Dr. R. D. Mussey, "Accidents to Pregnant Women;" Dr. G. B. New, "Injuries to the Face" and A. J. Lobb, "Legal Advice: Responsibilities that a Physician Would Incur When He Steps in to Give First Aid at Scene of Accident."

SOUTHWESTERN MINNESOTA MEDICAL SOCIETY

The Southwestern Minnesota Medical Society, meeting in Worthington, elected Dr. W. G. Benjamin of Pipestone, president; Dr. P. W. Harrison of Worthington, president-elect; Dr. H. Basinger of Windom, vice president; and Dr. B. O. Mork of Worthington, secretary-treasurer.

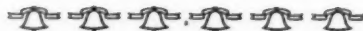
Dr. S. A. Slater of Worthington and Dr. Benjamin were named delegates to the Minnesota State Medical Association meeting.



CHRISTMAS SEALS



**Help to Protect Your
Home from Tuberculosis**



WOMAN'S AUXILIARY

Mrs. M. A. NICHOLSON, Duluth, Minnesota, *President*
Mrs. E. V. GOLTZ, 2259 Summit Avenue,
Saint Paul, *Publicity Chairman*

We have received an urgent plea from our National President Mrs. V. E. Holcombe as follows:

"Subscribe to the Bulletin, the official publication of the Woman's Auxiliary to the American Medical Association; issued quarterly, \$1 a year. Send subscriptions to Mrs. H. E. Christenberry, Highland Drive, Knoxville, Tennessee."

And from Mrs. George H. Ewell, Editor of the Bulletin, the following message:

"The Woman's Auxiliary of the American Medical Association is making a special effort at this time to awaken wide-spread interest in its activities, by increasing the number of readers of the *Bulletin*.

"This little booklet is a successor to the *News Letter* which for many years has kept the officers and board members acquainted with the progress of the Auxiliaries of all the States. It is published quarterly and contains reports of conventions, places of work, inspirational messages from leaders, and news of the hour in the medical world. It is a great help in promoting interest in local auxiliaries, especially where the program is new.

"The fall issue contains the inaugural address of Mrs. V. E. Holcombe, the National Auxiliary president. Also a message to women from Dr. Van Etten, president of the American Medical Association. Many other interesting items are to be found within its forty pages. It is hoped to have 6,000 women, one-fourth of the membership, reading the *Bulletin* before the year is over. In this way the members may keep abreast of the trends in the medical world and be better able to function as members and leaders of the Auxiliaries—local, state, and national.

"The coöperation of the Advisory Councils and the goodwill of all members of the Medical Association is earnestly requested."

Our state president, Mrs. M. A. Nicholson, wishes all members of the Woman's Auxiliary of the Minnesota State Medical Society a "very merry Christmas and a happy and prosperous New Year."

Hennepin County

On Nov. 14, 15 and 16 members of the Hennepin County Auxiliary sponsored the sale of handicraft of the patients at Glen Lake sanatorium, which was held at Dayton's in Minneapolis, the proceeds from this sale going to the patients who made the articles. This worthy project has been carried on for a number of years by the Hennepin Auxiliary. The chairman this year was Mrs. J. C. Davis.

Scott-Carver Counties

Word has been received from the Scott-Carver Auxiliary that six new members have been added to their group. At the fall meeting a Public Relations and a Hygeia chairman were appointed. The meeting was held Nov. 7th in Belle Plaine and the members met with the doctors for dinner and later at the home of Dr. H. M. Jourgens.

St. Louis County

Mrs. M. H. Tibbetts, member of the St. Louis County Auxiliary, is chairman of the Committee of Management of the International Institute and was the general chairman for the International Harvest Festival held Nov. 12, at the Y.W.C.A., Duluth. Mrs. A. T. Laird also served on this committee.

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Mrs. D. W. Wheeler of Duluth was a speaker at a recent meeting of the Duluth Woman's Club. Her subject was "Puppetry as a Hobby."

* * *

The Matinee Musicale of Duluth held its first meeting October 29, with Mrs. Inez Molander Hilding, a member of the St. Louis Auxiliary, as violin soloist and Mrs. Peers Buckley, also a member, appearing in a double piano number.

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Mrs. W. N. Graves of Duluth has been elected first vice president of the Children's Home Society of Duluth, and Mrs. L. R. Gowan was recently elected president of the Woman's organization of the "Our Lady of the Rosary" church.

* * *

A group of auxiliary members in Duluth are interested workers in the Needlework Guild including Mrs. P. G. Boman, Mrs. W. A. Coventry, and Mrs. Robert Graham.

* * *

St. Louis County Auxiliary held their annual rummage sale recently. The general chairman was Mrs. W. A. Coventry, assisted by the following: Mrs. M. A. Nicholson, Mrs. W. E. Hatch, Mrs. R. S. Forbes, Mrs. M. G. Gillespie, Mrs. P. S. Rudie, Mrs. M. McFischer, Mrs. William Strobel and Mrs. T. O. Young.

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Nine St. Louis County schools submitted entries in the 10th annual high school essay contest on tuberculosis. Our state president, Mrs. M. A. Nicholson, was instrumental in promoting this contest in the St. Louis county Schools and the St. Louis Auxiliary carried on with the project and will present \$10 to the St. Louis county winner.

Practically all tuberculous individuals are Vitamin A deficient, whether as a cause of tuberculosis or an effect is not known. Marked Vitamin A deficiency might indicate that a thorough chest examination is in order if no other cause be found for this deficiency. Vitamin A deficiency is believed to be widespread.—R. HARRIS and J. HARTER, *Southern Med. Jour.*, Oct., 1940.

DECEMBER, 1940

BOOK REVIEWS

Books listed here become the property of the Ramsey, Hennepin and St. Louis County Medical libraries when reviewed. Members, however, are urged to write reviews of any or every recent book which may be of interest to physicians.

THE MARCH OF MEDICINE. Number IV of the New York Academy of Medicine Lectures to the Laity. 168 pages. Cloth, \$2.00. New York (Morningside Heights): Columbia University Press, 1940.

In this handy volume are included six essays dealing with the history of various phases of medicine. "From Folkways to Modern Medicine" is presented by Walter C. Alvarez; "Health in Elizabethan England" by Sanford V. Larkey; "Not So Long Ago" by Cecil K. Drinker; "The Romance of Modern Surgery" written by Charles Garden Heyel; "The Story of Insanity" by R. G. Haskins and "The Cinderella of Medicine" by Karl A. Menninger.

The authors present their material in an easily readable style. The essays seem to be written with the purpose of exposing the reader to historical scenes so that in comparing them with the present he may have a perspective which will clearly show the advances which have been made in medical thought. Methods of medical practice with their social and economic implications are not dealt with in this book. Although this subject is highly controversial the layman is profoundly interested in it and elucidation of progress in this phase of medicine might be a valuable subject for a forthcoming essay.

WM. D. COVENTRY, M.D.

VIRUSES AND VIRUS DISEASES. Lane Medical Lecture Series. Thomas M. Rivers, M.D., Sc.D. 133 pages. Illus. Price \$2.50. Stanford University, California: Stanford University Press, 1939.

This is a most delightful, concise, and authoritative review on the present status of facts and theories concerning viruses. It consists of five lectures originally presented in the series of Lane Medical Lectures at Stanford University.

The first chapter on lymphocytic choriomeningitis cleverly reveals the multiplicity of methods used in the field of virus research while at the same time simply narrating the now accepted facts concerning this disease entity. One is convinced the laboratory methods used are not so complicated but that the better hospital laboratories may soon furnish the physician with specific means of diagnosis of this and other important virus diseases of man.

The hyperplastic and necrotizing lesions of virus diseases individually and as a group are discussed in the second chapter with a discussion of the frequently observed Bollinger and Borrel inclusion bodies.

Among many other facts, one learns that the viruses act very much like the wide variety of disease producing bacteria in relationship to their immunological and serological phenomena. One very important and possible exception is apparent in that the intracellular environment of the virus in certain cases is a protection against high titered antibodies in the blood of the in-

BOOK REVIEWS

fected individual. This has a fundamental bearing on the use of immune sera in certain diseases which is discussed in the last chapter on therapeutics in virus diseases. One of the most discouraging observations in this chapter concerns the probability of a completed spread of the virus of poliomyelitis before clinical manifestations of the disease, thus putting the virus in the protection of the cytoplasm of the nerve cell.

This book is exactly what the busy practitioner wants to read to keep astride with developments in the field of internal medicine.

ARTHUR H. WELLS, M.D.

AS THE TWIG IS BENT. Leslie B. Hohman, M.D. Associate in Psychiatry, Johns Hopkins Medical School; Assistant Visiting Psychiatrist to the Johns Hopkins Hospital. 291 Pages. Price, \$2.25. New York: The Macmillan Company, 1940.

Foreword by Adolf Meyer: "There are many books concerning the education of children and advice to parents. Very few are built on the experience of one who is not only an investigator or consultant but also a genuine practitioner intent on seeing good advice actually carried out."

This reprinted book bespeaks the author's success.

LILLIAN L. NYE, M.D.

CANCER OF THE BREAST AND CANCER OF THE UTERUS. Marion Ellsworth Anderson, A.B., M.D. 106 pages. Illus. Cloth, \$3.50; paper, \$1.00. Clinton, Iowa: The Franklin Press, 1939.

The author presents in this miniature volume the observations of his own experience and a résumé of the important literature on cancer of the breast and cancer of the uterus. The text, of about one hundred pages, discusses the theories of cancer as well as showing the various types of malignant growths in both of these organs. There are many photographs and photomicrographs of the malignant lesions found in the breast and the uterus.

A considerable space is devoted to early diagnosis such as transillumination of the breasts, Schiller's test, and biopsies, each of which is fairly well evaluated. The treatment of malignant lesions in these two organs is discussed and included in this discussion is the technique of radium application and illustration of the various procedures used.

This is a concise and brief discussion of malignancies in the breasts and uterus and should be very valuable to the general practitioner who does not have available, or does not desire, the more detailed discussion of lesions in these organs.

RUSSELL J. MOE, M.D.

CHILD CARE AND TRAINING. Fifth Edition. Marion L. Faegre, Assistant Professor of Parent Education; and John E. Anderson, Director of Institute of Child Welfare, University of Minnesota. 320 pages. Illus. Price, \$2.50, cloth. Minneapolis: University of Minnesota Press, 1940.

This is a sensible type of book every physician should be familiar with, so that he may recommend it to those parents who want detailed advice, con-

stantly available, for the many problems arising during the development of their child. Many books of this general type have been published in response to the demand arising from an increased interest in child guidance, but few of them cover the material as well and as interestingly. The questions at the end of each chapter are especially valuable as they lead to an immediate application of the material and a better grasp of the principles involved.

Teachers, nurses, and physicians, as well as parents, will gain a good deal from this book. Much of the material may be familiar to some and others may question it in part, but everyone who reads it will benefit either in the acquisition of new ideas, or in a better crystallization of ideas already held. The book is well illustrated and includes valuable suggestions for toys, reading material, and music, in fact, for everything that will contribute to the fullest development of the child.

ROBERT PEERS BUCKLEY, M.D.

SYNOPSIS OF PRINCIPLES OF SURGERY. Jacob K. Berman, A.B., M.D., F.A.C.S., Assistant Professor of Surgery, Indiana University, School of Medicine. 615 pages. Illus. Price, \$5.00. St. Louis: C. B. Mosby Company, 1940.

This book takes its place with others of its type as an aid to teaching.

The first portion is devoted to chapters on the history of surgery, bacterial invasion, and the like. Thereafter, the discussion proceeds through the alimentary, nervous, glandular, and other "systems."

Perhaps less space might have been devoted to syphilis. The subject of fractures should be developed more fully.

A welcome feature of this book, which might well be included in more extensive texts, is the chapters on fluid balance, acid-base balance, hemorrhage, and shock.

A bibliography follows each chapter and there are many excellent charts and illustrations.

KENNETH E. FRITZELL.

PRINCIPALS OF SURGICAL CARE. Alfred Blalock, M.D., Professor of Surgery, Vanderbilt University School of Medicine, Nashville, Tennessee. Illustrated. St. Louis: C. V. Mosby Company, 1940.

Now and then some book comes out which "hits the nail on the head" so to speak, in one of the avenues of medicine. In the opinion of the reviewer this is such a book. It is only about two centimeters in thickness, but it contains much valuable information gleaned from experimental data which have contributed to make modern surgery what it is today. It should be a desk book for all surgeons. To the surgeon who received his training twenty or thirty years ago, it should be a great help in the revision of certain routine measures.

The relation of disruption of wounds to low protein content of the blood is discussed. Prothrombin deficiency, its relation to bleeding and its dependency

BOOK REVIEWS

on certain vitamin ingestion is discussed and the conduct of surgical cases in diabetics is clearly described.

Some of the pitfalls in the surgical after care in hypertensives and nephritics are outlined.

The rationale for the proper use of fluids pre-operatively and postoperatively and the indications for fluids of the right sort are clearly discussed. Routes of error in this respect are pointed out.

Hypertension and nephritis in surgical patients are handled in a sane and matter-of-fact way and post-operative pulmonary complications which constitute probably the greatest hazard in abdominal surgery are given merited space and discussion.

This little book can be made one of the most useful aids to the surgeon of today if he will utilize the material it contains.

ARTHUR N. COLLINS, M.D.

THE FIRST FIVE YEARS OF LIFE; A GUIDE TO THE STUDY OF THE PRE-SCHOOL CHILD. Arnold Gesell, M.D., et al., The Yale Clinic of Child Development. With 21 plates. 393 pages. Price, \$3.15. New York, London: Harper & Brothers Publishers, 1940.

This is a welcome book; the embodiment of fifteen additional years of experience and investigation in the author's entirely rewritten and extended text, "The Mental Growth of the Pre-school Child," published by the Macmillan Company in 1925. It depicts the psychological and medical aspects in a technical manner, with

a very human touch. The gradation from birth to maturity is presented in a complete growth picture.

A Pictorial Survey of Pre-school Behavior is presented in the twenty-one plates. There is a list of 142 Selected References.

Every one interested in a child will await succeeding volumes of this masterful touch from The Yale Clinic of Child Development. This volume is unreservedly recommended.

LILLIAN L. NYE, M.D.

DOCTORS IN SHIRT SLEEVES. Edited by Sir Henry Bashford. 294 pages. Cloth, \$2.50. New York: Veritas Press, 1940.

This group comprises a group of essays, written by a number of English physicians, which first appeared in the British Medical Journal, *Lancet*, under the heading "Grains and Scruples." The subject content, which runs the gauntlet from musings on patients and hobbies to personal reflections, reminiscences, and philosophies, was so well received that it was felt advisable to incorporate the most interesting of them in book form.

A brief review of the titles of some of the essays, "Crabbed Age and Youth," "From the Back Streets," "The Life of a Surgeon," "On Hobbies," "An Old Diary," "Some Forgotten Medical Journals," "Medicine and Philosophy," "Retirement and a Garden," and many others will at once make apparent the vast

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A. J. SPANG, M.D.

PROCTOSCOPIC EXAMINATION AND DIAGNOSIS AND TREATMENT OF DIARRHEAS. M. H. Streicher. 149 pages. Illustrated. \$3.00. Springfield: C. C. Thomas, 1940.

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To one who is interested in the causes of the fall of France, the reading of this small book by a citizen of both France and the United States is recommended. When things come to such a pass that a considerable number of the national legislators must refer to a foreign ruler before voting and when the president of a country fears to arrest leaders of a party outwardly advocating overthrow of the government by force, the foundations of the country can be expected to crumble when a storm of foreign invasion arises. There is much of value in the book as an example to our own country.



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